THE

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ORIGINAL ESSAYS.

ON DOMESTIC EPIDEMICS.

The Editors of this work promised, at the commencement of this series, to direct their labours and inquiries to the subject of domestic epidemics, and to collect for publication all documents, essays, or papers, from persons professionally engaged in the treatment of those complaints which, from time to time, may have prevailed in different parts of our extensive country, with unusual or dangerous symptoms. They at the same time solicited the assistance of their patrons and correspondents, in their narratives of facts, the communication of their opinions in relation to the treatment of the sick, and their experimental practice. It has happened that in all parts of the union where population is increasing, great attention has been paid to this subject by men of talents, who, with zeal, judgment, and ingenuity, have collected for us such facts and observations as were best calculated to promote medical science in the definition and treatment of the prevailing epidemic. These have been successively compared and arranged in the present and preceding volumes, with occasional remarks, which it was the Editors' province to deduce from original matter inserted in their pages.

That their plan has met with the approbation of their friends and subscribers, is sufficiently manifested by the numerous and valuable communications which

they have been able to present to their readers, and which, on the subject only of the four winter epidemics, consist of upwards of twenty-five essays and tracts from professional gentlemen, to whom medical science is actually indebted for whatever degree of knowledge, or improved mode of treatment, in this and other epidemic diseases, has been obtained. Though a few contradictory hypotheses may have been offered on the remote causes of the winter epidemic, though different or opposite modes of treatment have been recommended as successful, every one of those original papers are interesting and instructive. To all of them the Editors feel indebted for argument and authority in attempting to come at the true origin of that epidemic, which seems now to be understood to have proceeded from the great variableness of our atmosphere and climate, for many successive winters and springs. We have also surmised the necessity of adopting opposite indications of treatment, in various latitudes, in diversified constitutions on the continent, where the same disease, asthenic of itself, must have been evolved, in a great proportion of cases, as a sthenic malady, marked with pyrexia, and all the symptoms of inflammatory complaints. (Vide Med. Rep. new series, vol. ii. p. 223.) Great attention has been paid, it is hoped, to notice those strange and singular symptoms, as exanthemata, convulsions, excruciating pains, delirium, &c. which have occurred in our northern and southern districts. As, in some instances, these symptoms had with some reason suggested the apprehension of a pestilential fever, we have warned our readers in time of certain points of contact and similarity between the spotted fever *and the* peripneumonia notha. *(Vide Med. Rep. new series, vol. iii. p. 1.) Indeed, we have said, (page 4) "that the malignant petechial (spotted) fever, and the peripneumonia notha, have been frequently intermixed and identified by pathological effects, differing only by a determination to the skin, to the lungs, or to the brain;" and we will show, in the succeeding pages, still more surprising varieties of symptoms in the winter epidemic of many districts, and as far as our national and literary intercourse could reasonably be extended.*

After having submitted to our readers two more southern communications on the winter epidemic, the last and the latest received, we will commence upon another, that is, the catarrhal fever, or influenza of the last autumn, 1815, *as described in the preceding number, page* 192. *We suspect that the range of its prevalence has extended far and wide, and was attended with some degree of mortality; and that it is, consequently, an important subject of medical investigation. For all future communications on this or other epidemics, the Editors will feel particularly thankful. They indulge a hope that an unabated zeal among the friends of our profession, already so distinguished in the United States, will ever continue to survey and explore the field of observation, which will abundantly repay the industry of each contributor with self-approbation, and public gratitude for imparted treasures of useful knowledge.*

OBSERVATIONS *on the* WINTER EPIDEMIC *of* 1812, 1813, *and* 1814, *as it appeared in Natchez, and on the eastern Frontier of the Mississippi Territory. By Dr.* JOHN KERR, *in a Letter to* ALEX. H. STEVENS, *M. D. dated November* 1, 1815.

DURING most of the years 1812 and 1813, I was serving in the army, and part of the time on the eastern frontier of this territory, when I had no opportunity of learning that there were any unusual symptoms in the diseases of the United States army. But in December of 1813, on a march into the Creek nation of Indians, some cases occurred to me, so novel and perplexing, that they made a strong impression on my mind. Of one of these cases my note-book affords the following memoranda:—"A militia officer (colonel Bates), after unusual fatigue, exposure, &c. particularly lying on the damp cold ground, in December, for two successive nights without fire, was taken apparently with the chilly or cold fit of a fever, attended with extreme pain in his breast, back, and limbs. In despite of

hot coffee, and large doses of such stimulants as toddy, mint juleps, paregoric, laudanum, &c. he continued in this state twelve hours; and, contrary to my expectation, ardent fever never came on. Slight fever, however, at length appeared; and his *pulse*, as I thought, *justifying*, but not *demanding* venesection, I took a few ounces of blood, not more than six, expecting that I would soon have the operation to repeat; but this I did not find necessary or proper. After the rigours had completely disappeared, he complained of no acute pain, but of a heavy disagreeable sensation, like a great load at his epigastrium; and he lost, in a great measure, the use of his limbs. He also was affected with an obstinate and distressing hickup. The use of calomel and other purgative medicines, did not relieve *this* or the other symptoms, although he discharged, by eructation and vomiting, as well as by stool, a large quantity of bile. I prescribed the oil of cinnamon, oil of amber, &c. to relieve the hickup, which I thought arose more from debility than from any other cause. This troublesome symptom, the singultus, did not leave him for ten or more days; indeed, during all this time the vital and animal functions were performed with difficulty; and it was longer than this ere he could eat much, or attempt to walk. He recovered, however, at length, very perfectly, on the use of tonics and stimulants." This case was to me novel, in the length and severity of the chilly stage, the subsequent absence of arterial reaction, the sudden and extreme prostration of strength, and the obstinacy and long continuance of the singultus. On the subject of this last symptom, I was pleased with Dr. Comstock's opinions, as expressed in his letter to Commodore Perry, (vide Med. Rep. new series, vol. iii. No. 1.) and recollect several instances in evidence, that it is frequently not fatal, although very distressing, in the most critical stage of acute as well as chronic diseases.

In March, April, and May, 1814, after my settlement in this place, a few cases came under my notice, and Dr. Slip and Dr. Gustin informed me of others, which correspond with many descriptions of the northern winter epidemic, in the suddenness of the attack, and cele-

rity of their course, proving fatal sometimes in twenty-four, forty-eight, and sixty hours; in the eccentricity or irregularity of the symptoms; in the great disposition to degenerate into typhoid or typhus states of fever; in the frequency of suppuration in the ears and other parts of the body; and in the variety of treatment necessary for cases in many respects similar. During the last winter also, many cases have occurred of complaints in the breast, head, and throat, of a malignant and unusual nature. In Natchez I believe we have had an opportunity of witnessing comparatively few of these cases, as they have occurred more frequently in the country, and particularly in some of the upper settlements sixty or eighty miles above this. In one of these situations it destroyed a great number of persons, and in one family of six or eight it proved fatal to almost every individual in the course of a few days. A swelling of the throat, externally, and I suppose internally, pain in the head, breast, and limbs, with severe fever, I understood were the prominent symptoms. Last February and March, a disease with the symptoms of pneumonia generally, appeared on a plantation in this neighbourhood, and, I understood, attacked nearly all the negroes, sixty or eighty in number, and proved fatal to about fourteen, notwithstanding the best medical aid the country could afford.

We have, in this country, suffered in a much less degree from the diseases which have to the north been so epidemical and so fatal. If I had time, I might inform you something of the modes of treatment we have pursued with various success; these, however, have been, as I learn they have been to the north, different in different cases and situations. Bleeding has sometimes been forbidden, and sometimes indicated to a pretty large extent. Blisters, warm bath, calomel and antimonials, have all in turn been useful. Emetics I have seen decidedly beneficial. In short, the wisest judgment has been necessary to adapt the remedies to each individual case. Never before have I been so much convinced of the error and futility of practice founded on nosological definitions. But I am tedious as well as in haste.

Extracts from an Account of the WINTER EPIDEMIC *of 1815 and 1816, as it appeared in Columbia, and other Parts of the State of South-Carolina. By Dr.* JAMES DAVIS. *Columbia, published in 1816.*

THE author, having described an epidemic in the form of common colds, which prevailed in Columbia early in November, 1815, thus proceeds:

"By the latter end of November and beginning of December, these colds began to wear a more serious complexion; the worst cases assuming the type of violent pneumonia, while the more ordinary cases began to be accompanied with severe fevers, and local affections of the parts about the head. By the middle and third week in December the disease had become truly alarming. Several mortal cases had occurred, accompanied with symptoms of malignity, and the subjects of it were multiplying every day. By the middle of January it may be said to have reached its acme, and by the second week of February to have nearly subsided. It, however, is not yet entirely passed off, for upon the recurrence of every damp cold day or two, a few severe cases immediately appear."

"Every serious case of this epidemic was ushered in by a chill, with an unusual aching of the joints and extremities of about two hours duration. A few hours before this chill, in very many cases, sudden, acute, and excruciating pains in some part of the body, but especially about the face and head, as in one tooth, one ear, the orbitary bones of one eye, one side of the maxillary bones, one side of the head, the bones of the nose, or perhaps still more remotely, a pain in one knee, would appear, whilst the subject was in perfect health, as precursors and premonitors of the approaching disease. The circumstance of a formal chill at the commencement, afforded a certain prognosis of the nature of the future disease, whether it was to be a light or a severe one. Not a single case of a severe nature occurred without this symptom, and not one which was marked with it, that did not prove exceedingly violent. The measure of danger might also be predicted with consi-

derable certainty from the severity and length of the chill, as the violence of the disease was generally correspondent to the degree of this symptom.

" A fever immediately succeeded the cold stage, and, perhaps, in nineteen cases out of twenty, within the first twenty-four hours, a pain began to form in some part of the thorax, attended with cough, constituting pneumonia. This pain continued to increase in violence, spreading and occupying a more extensive portion of the chest, until in some instances it seemed to have pervaded the whole region of the thorax, or shifting from one part to another for nine, ten, or eleven days, when a crisis occurred, either by expectoration, perspiration, or flocculous urinary depositions, or by all three of them, and the disease gradually solved.

" In pneumonic cases the pulse was seldom hard, but was very quick, and manifested great irritation. The warmth of the skin was not very ardent, but until near the crisis was generally disposed to be dry. About the third day, and sometimes on the first, the tongue became covered with a yellow fur. The thirst was not generally considerable, but short paroxysms of it occurred in which it was excessive. There was seldom much pain in the head, and yet there was almost constantly present a slight alienation of mind. There was some expectoration from the beginning of the cough; at first it was commonly a little bloody, but frequently only a tough glairy phlegm. The urine during the disease was a little diminished in quantity, and of a high red colour. Muscular strength was considerably prostrated, and the patients suffered much anxiety. The sleep was greatly disturbed. The respiration was hurried, and frequently performed with a little catch, as if from some obstruction, even when the pain in the chest did not appear to be very acute; but it seldom amounted to dyspnœa, except in fatal cases, and then for a few hours just before death, it was excessively severe, suggesting an idea, however, that the chemical function of the lungs was suspended, rather than that they were rendered impervious from infarction or mechanical obstruction. The cheeks were often marked with a circular blush, which in some cases was of a remarkably

deep crimson colour. Upon the whole, however, the apparent difference of symptoms between these cases and ordinary cases of sporadic pneumonia was not very striking. The difference chiefly consisted in the greater danger attending the epidemic cases, and the unsuccessful result of the remedies usually employed in sporadic pneumonia.

"Towards the ninth, tenth, or eleventh day the expectoration became more easy and copious, the matter of which was generally yellow. Spontaneous and comfortable perspiration burst forth. The urine became more abundant and turbid, deposited a copious mucus sediment, and the disease gradually terminated.

"This was the train of symptoms that appeared in the generality of pneumonic cases, but not in all. There were some in which the arterial actions were prodigiously energetic, and others in which there was scarcely any re-action in the blood vessels, exhibiting every mark of the greatest debility compatible with life. These latter cases were more embarrassing to the physician than the former; but, nevertheless, did not prove to be more mortal. They ran the same course, had similar crises, and terminated about the same time with the kind of cases above described.

"Besides the pneumonic form of this epidemic, which was here the most predominant, and occasioned nearly all the mortality in this community, we also had three other types of it. The pneumonic form, in all serious cases, was so greatly predominant, that perhaps we should not depart very far from propriety to denominate the disease an epidemic pleurisy or peripneumony, rather than that of an epidemic catarrh. The next most prevalent form exhibited a determination of disease upon the brain and meninges, with violent pain in the head, suffused countenance, redness of the eyes, and delirium. In another, the disease fixed on the blood-vessels only, in the form of violent fever; and in the third, but in very few instances, there was a local determination to the throat, producing cynanche pharyngæa."

"In the cure of this disease, the cases were readily managed with purgatives, and the subsequent use of the

bark; but when it arrived to its full strength, the bark was no longer admissible, except in the state of convalescence."

"In treating the pneumonic cases, it was readily to be perceived, that bleeding, our chief remedy and principal dependence in sporadic pneumonia, was not the leading remedy in this disease. For although it was frequently useful, and sometimes absolutely necessary to have recourse to it, yet the benefit derived from it, even in these cases, and where there was considerable inflammatory diathesis, with violent local affections of the chest, was not equal to my expectations, nor to what I had been accustomed to obtain in sporadic pneumonia. This disease was decidedly of a bilious character, modified by the influence of the cold season into a form of catarrh. In some cases a redundancy of bile was manifested by the immense discharges of it by evacuants; and in others, where it did not seem to be so abundant, yet we have reason to believe, from the acrimony of the discharges and from its appearance, that a vitiated state of it was connected with the disease. In many cases, towards the decline, the complexion assumed a bilious hue, and in some a true jaundice supervened in the midst of the attack.

"The remedies most uniformly useful, and which ought to be considered as the chief and leading remedies, were *cathartics, diaphoretics, anodynes* and *epispastics.* In cases of very energetic arterial action, venesection was absolutely necessary; and in cases of less vascular energy, when the local inflammation in the chest was fixed and extremely acute, small blood-lettings were useful, and even essentially necessary to save the lungs from immediate destruction; but in general it was requisite to be extremely guarded in this operation, and to take away no more blood than was absolutely necessary to rescue some vital part from immediate mischief."

"*Refrigerant cathartics,* such as the sulphate of soda, and the sulphate of potash, were the most useful; and it was necessary to repeat them every day or every other day during the disease; and to employ the intervals with diaphoretics and anodynes. The most serviceable diaphoretics were the pulv. antimon. or the James' pow-

ders, and powders composed of tart. emet. and sal. nitre. The anodynes, either the elixir paregoric or laudanum, were best given at night, to compose the irritation, and to co-operate with habit in inducing a comfortable sleep. It would be natural to fear that the anodynes might have an effect in repressing expectoration; but so far from it, they usually repressed only a harrassing fruitless cough during the night, but promoted the expectoration when the cough returned in the morning. It was proper, however, not to resort to this remedy too early, nor until after the morbid excitement had been somewhat reduced; and if, in the course of the disease, the morbid excitement suddenly increased, it might be proper to intermit its use. It is unnecessary to add, that the anodyne ought always to be so given as not to interfere with cathartics."

"In chest cases, epispastics on the seat of the pain, especially if fixed, were beneficial. In cases of the cynanche, when not violent, the volatile liniment, combined with a solution of camphor in sp. terebinth. was very serviceable; but in violent cases, epispastics to the throat were indispensably necessary. Such gargles as best promoted a secretion from the fauces, were useful, and for this purpose the simple forms, as warm sage tea with honey, and sal nitri, were perhaps as good as any others. In head cases, epispastics, when applied to the back of the neck, were strikingly beneficial; and I was informed of one case which approximated nearly to phrenitis, in which an epispastic over the whole shaved scalp afforded immediate relief. In mere fever cases, blistering was most usefully performed on the extremities," &c.

"I have faithfully endeavoured to comprise in this communication an accurate history of the rise and progress, type, symptoms and cure of this epidemic. I am happy to be able to add, that Dr. E. D. Smith, Professor of Chemistry in the South-Carolina College, who, during my own illness with the disease, was necessarily drawn into the practice for several weeks from the scarcity of medical aid, and to whom I showed this communication, confirms the statements I have made as accordant with his own observation and experience.

And as, from authentic reports, this disease has assumed very various shapes in a great number of places, it is much to be desired that similar communications should be obtained from every place in which it has appeared."

"*Peculiarities and Anomalies of the Epidemic.*

"Dr. Rush remarks, that 'the influenza passes with the utmost rapidity through a country, and affects the greatest number of people, in a given time, of any disease in the world,' in which he is corroborated by many other writers. But our late epidemic was peculiarly slow in its progress in pervading the country. In its march from the northward to the southward, its progress appears to have been only from about one hundred to two hundred and fifty miles per annum. In the winter of 1813 it was in Philadelphia; in the winter of 1815 it had advanced as far southwardly as Salisbury, North-Carolina; and in this winter it has visited most parts of South-Carolina. Since its invasion of this state, its progress from place to place has been equally peculiar; appearing in spots or neighbourhoods only thirty or forty miles distant from each other, at periods of four, five, six, or eight weeks apart. It was also peculiarly capricious in the circumscribed locality of its prevalence, attacking one particular community, raging for eight or ten weeks, and then passing over a large intermediate tract of country and seizing on another circumscribed community. In this way it has been meandering through the state ever since early in last November, and at this time it is still raging in some neighbourhoods adjacent to others where it prevailed early in the winter, and from which it had long since passed off.

"It has been peculiar in raging with the greatest severity in the interior of the country, whilst the sea coast has been exempted, or suffered comparatively but little. And yet, in the interior of the state, the most swampy situations, margins of rivers, and places most subject to the endemial autumnal bilious fevers, have suffered most severely from the epidemic.

"It was likewise peculiar in its manifest predilection

for male subjects in preference to females. The proportion of females attacked did not perhaps exceed one tenth or one fifteenth part; but some few who were attacked seemed to have the disease equally as violent as the males. Children under four our five years of age were remarkably exempted, and amongst children above that age the males most generally suffered. It was not peculiarly fatal to the aged, nor to such as had a prior tendency to pulmonic affections; but, on the contrary, some very old people recovered, who had the disease severely; and, indeed, it fell with its greatest severity and mortality on the robust, and on such as were in the prime of life. Corpulent persons appeared to enjoy an exemption; and it was thought that Europeans and the natives of the Eastern States were much more exempted than the natives of more southern latitudes. Females in a state of pregnancy were not more liable to abortions in this disease than in others of equal violence, which unhappily is not the case in epidemical catarrhs generally. To drunkards, as might have been expected, it was generally fatal.

"This disease was peculiar in its universal tendency to determine on the chest in the form of pneumonia. For although a small proportion of cases determined to the head, blood-vessels only, or the throat, yet the tendency to the chest was so general as almost to warrant the denomination of an epidemic pleurisy or peripneumony rather than that of influenza. It may also be remarked, that relapses were more seldom than in ordinary influenzas. It was peculiarly under the influence of temperature and humidity. Upon the recurrence of cold damp weather, of which we have had an unusual share this winter, the cases immediately multiplied, and those who had been previously ill never failed to become worse. It was perhaps from this circumstance that it proved in many places peculiarly fatal to negroes, as they were more exposed to the vicissitudes of the weather, and their lodgings generally cold and uncomfortable. Exposure to the external atmosphere and cold, seemed constantly to predispose to the disease; and hence, perhaps, is the reason why females, children, and corpulent people were more exempted from it than others, as

corpulence serves as a defence against the influence of cold.

"In two anomalous cases in this town, the local determination to the brain was so sudden and so violent in two robust men, as to occasion convulsions, without any premonitory symptoms. Both these cases proved fatal, one within forty-eight hours, and the other within a few days. In a lad of fourteen or fifteen years of age, the disease was ushered in by a sudden attack of stupor. He was travelling on the road in company with some others, and complained of nothing before he fell down in a state of insensibility. This case recovered. A pneumonic case occurred, of a typhoid nature, accompanied with a cough, in every respect resembling the hooping-cough, except the matter of expectoration was uncommonly copious and purulent from the beginning. This is a recent case, and, after a tedious illness, seems likely to recover. In three pneumonic cases, towards the period of the crisis, the disease precipitated itself upon the extremities, producing an alarming state of phlegmonic inflammation, which terminated the constitutional disease, by establishing copious suppurations. In two of these cases it fell upon the arms, and the inflammations and enormous swellings extended from the fingers to the shoulders. The suppurations took place around the elbow in both cases, forming extensive sinuses, from which the discharge kept up for many weeks. These are both recovering, but threaten an anchylosis. The other case fell upon the leg, suppurated copiously, and is doing well.

"I was informed by the physicians of this place of three cases in which hemorrhages from one or both ears occurred, in which the patients lost from ten to sixteen ounces of blood. One of these cases recovered. Three or four cases occurred, in which the eruption of a rash on the second or third day terminated the disease; and in one it appeared as late as the fourth or fifth week, in conjunction with the other usual symptoms attending the crisis, and seemed to be beneficial.

"Two pneumonic cases occurred, in which uncommon copious bronchial or pulmonary secretions took place at a late stage of the disease, and after the condi-

tion of the patients had given hopes for several days of convalescence. This secretion occurred suddenly, and the matter of it was expectorated by an exhausting paroxysm of coughing. The quantity expectorated at one time was from about four ounces to two pounds, in the space of from fifteen minutes to two hours. In one of these cases it recurred periodically with nice precision, at the same hour, and almost at the same minute in every twenty-four hours, for four or five times.

"The matter of this secretion had an intermediate appearance between pus and mucus, of a white colour, with a taste not easily described, but more nearly resembling the taste of a raw egg than any thing else. This secretion was followed by evident and immediate relief to the chest. The respiration became more free, the lungs more easily expanded, the remaining pains and uneasiness about the chest were mitigated, and the convalescence was visibly more rapid."

An ACCOUNT *of the* INFLUENZA, *or* CATARRHAL FEVER *of Malone, Franklin County, State of New-York. By Dr.* HENRY S. WATERHOUSE, *dated December 2, 1815.*

THE village of Malone is situated on the great Salmon river, nine miles from the northern boundary of this state, or forty-fifth degree of north latitude.

From the height of land some few miles to the south of this, the country descends to the north and north-west in an almost uninterrupted plane, till it reaches the St. Lawrence, which is running in a north-easterly direction, at the distance of about twenty-two miles from us.

Malone, and the country in its vicinity, excepting the north-western part of the county, bordering on the St. Lawrence, is elevated, well aired, and finely watered. The country for many miles to the south of us is yet a wilderness—it is high and cold—contains several small lakes, many ponds, and the sources of numerous rivers that run to the north-west, north, and east, emptying themselves into the St. Lawrence and lake Champlain.

Our winds are mostly from the west, south, and north. A very pleasant day, in which there is little or no wind, or several hours continuance of an easterly wind, are sure forerunners of stormy weather.

Our winters are, in general, severely cold, and the west wind is apt to be very uncomfortable. Snow falls by the latter part of November, and the earth is seldom bare of it till near the close of March, and, in some seasons, not till the first week of April.

There are neither swamps, marshes, nor ponds of stagnant water, within many miles of this place.

[Dr. Waterhouse informs us of the existence at Malone, in the early part of the spring, of a severe epidemic among the children, which assumed the appearance of the peripneumonia notha. The whole force of the disease fell upon the lungs and brain. Mortality was considerable. The succeeding season brought on a severe dysentery, which equally affected children and adults, and was overruled by emetics, by cold applications to the abdomen, and by tonic vegetable decoctions. We shall at present principally fix our attention to the subject of the autumnal epidemic.]

In the latter part of September, the disease appeared in very many families in this vicinity, under the form of influenza. It had been the prevailing form of disease at New-York sometime previously, and was soon epidemic at Quebec. In the latter place many deaths occurred in consequence of it.

The first appearances of this complaint were coldness and rigors, sneezing, discharge of thin ichor from the nose, dull and heavy pain across the fore part of the head, troublesome dry cough, pain in one or both sides, hoarseness, redness of the eyes, frequent, hard, and full pulse, loss of appetite, dry skin, moist and white tongue, and, in some instances, quick and laborious breathing. The latter symptom did not occur till after the 10th of October; and these patients were affected with great distress and sense of stricture across the breast, pain through the whole head, but more particularly across the forehead, and distress at the stomach:

their pulse was very frequent, and had a remarkable wiry feel; their coughing was frequent, hard, and distressing. Others were affected with pain in one or both ears, together with a constant sound or roaring. This pain was accompanied with a sensation of throbbing. It soon became fixed in one ear. The sound or roaring was distressing, and the pain most excruciating. The exacerbations or augmentation of pain were between the hours of eleven and two at night. In some few patients this form of disease continued for six days.

Very few people escaped this complaint. Infants, I believe, were less subject to it than children and adults; and, like all epidemics, its attacks were in all degrees, from a mild indisposition, or slight cold, to an extremely distressing, and even dangerous state of disease. Patients who were severely attacked with it were long in recovering; but relapses were not frequent.

It was not an unfrequent symptom for the tongue to become brown, and, in some cases, for the pulse to intermit, on or near the third day of the disease. I do not know that these symptoms were produced by any particular plan of treatment.

A circumstance which I presume has been observed by most, and perhaps by all writers on epidemics, occurred in a remarkable degree during the prevalence of this complaint: an increase of pain or bad feelings in all chronic ailments, cases of chronic rheumatism, lumbago, tooth ache, ulcerated mammæ, sciatica, sore legs, nervous complaints, &c. which were vastly more troublesome at this time than for several months previous.

The natural termination of this disease was by a copious discharge of mucus from the nose and lungs. Those in whom these discharges took place freely, needed no medical aid.

At the giving way of many severe cases, large quantities of bloody mucus, some purulent matter, and not unfrequently clear blood, were discharged from one or both nostrils. But the debility, troublesome roaring in the ears, and more or less pains of the head or ears, or both, remained until they were removed by bark, wine, nourishing diet, &c.

In one distressing case of this epidemic I could, from the patient's complaints, distinctly trace the throbbings and acute twinges of pain along the divisions of the second branch of the fifth, and the portio dura of the seventh pairs of nerves on the right side of the head and face. In the case of this patient, who had been for several years a hard drinker, his nightly paroxysms of pain were so excruciating as to render him perfectly delirious; but he daily declared to me that "his appetite was unimpaired, and his *bodily* health good as usual."

Very many people, slightly ailing, recovered without the aid of a physician, by soaking their feet in warm water; by drinking warm teas of bitter herbs, so as to produce moderate sweating, (severe sweating was in every instance injurious); whilst other were cured by taking a brisk cathartic, as Coit's or Lee's pills, or common saponaceous pills charged with calomel. Cathartics were much more beneficial than emetics; and those that contained calomel did more good than those which did not. Moderate cases of ear-ache were relieved after taking a cathartic, by binding roasted onions, whilst warm, on the ear.

When the pulse was hard and full, blood-letting was absolutely necessary; when it was hard, but small and wiry, very small bleedings were all that our patients could bear; but it was not possible in every case to reduce the hardness of pulse by bleeding only as much as would be safe for our patients. Where too much blood was drawn, the case was rendered lingering, and convalescence extremely slow.

After diminishing the violence of action by cathartics, or by these and blood-letting, blisters, applied as near to the seat of pain as practicable, were highly useful.

Antimonial medicines were frequently serviceable, but in general they were found far less so than small doses of calomel with ipecac. and when these purged too much, they were exhibited with some opium.

When the coughing was troublesome, oxymel, or a decoction of squills, given so as to nauseate, often did good. When the lungs were dry, and the cough merely hecking, blisters between the shoulders were very serviceable. After the pulse had become soft, and

the skin moist, and more especially after a slight degree of ptyalism was produced, no medicine was found so serviceable as large and frequently repeated doses of cinchona in substance. This was the only mean of relieving the distressing periodical head-ache which, in many instances, remained after every other symptom of disease had vanished. Wine or brandy, together with muriatic acid, were added with advantage where distress and a sensation of faintness remained at the stomach.

Observations *on the* Epidemic Fever *of the* Season, *as it appeared at Southampton, Virginia, in* 1815–16. *By* William Singleton, *Esq. April* 13, 1816.

THE epidemic influenza again visited this county last winter, and still continues among us; bad colds and coughs were the preliminary symptoms, and prevailed almost in every family. When proper care was taken, the cough wore off; but on the taking of cold from any cause, or by exposure, particularly after being heated or using ardent spirits, the disease made its formidable attack on the system. It generally commenced with a chill, pain in the head and some part of the breast; the tongue yellow or white, changing to a dark brown as the disease advanced; the pulse was generally soft and full, but not very frequent or quick; notwithstanding there appeared great inflammation about the chest; the morbid excitement sometimes would be translated to the intestines, and produce every symptom of the *colica pictonum*. In this case strong cathartics seemed to aggravate rather than relieve the obstructions; in fact, a very strong cathartic appeared to invite the inflammation to the intestines, and then, to persist in them, was to hurry your patient on to the doleful shades of death. No part of the system appeared to be exempt from the force of the disease; it sometimes attacked the head, the throat, the breast, the bowels, and the joints.

From February, 1814, to June, 1815, the disease appeared under various forms and shapes, sometimes as a

quinsy, pneumonia vera, pneumonia notha, pneumonia biliosa, colic, pneumonia typhoides, bilious fever, and catarrhal fever, &c. As the summer approached, the disease disappeared. In November, 1815, it began to make its appearance again, in the form of pleurisy, a few throat cases, swelling of the joints, &c. In some cases of the joints, the capsular ligament was destroyed by the acrid matter, and the joint dislocated. Three cases came under my notice, two of the knee-joint and one of the elbow. No one disease has assumed as many shapes, or acquired as many names.

In Europe it has been called the tussis epidemica, febris catarrhalis epidemica, epidemical catarrhous semi-pestilential fever, and the epidemic influenza.

In America it is called the catarrhal fever, typhus fever, pneumonia typhoides, influenza, and the winter epidemic.

In 1557 it broke out in Asia, in Spain in the year 1580, and in England in 1658. In 1557 it spread from Asia to Constantinople, then spread over all Europe, and was *transported* to America. In November, 1732, it prevailed in the northern parts of Germany, and before the end of February, 1733, it reached Naples and Spain, having overrun all Europe in that time. In the November following it reached New-England, and travelled to Barbadoes, Jamaica, Peru, and Mexico. In 1775 it appeared again in London, Doncaster, Exeter, Birmingham, York, Chester, Blandford, Worcester, Aberdeen, Lancaster. It had then prevailed twelve different times as an epidemic in different parts of Europe.

In 1789, 1790, and 1791, it appeared in Philadelphia and New-York, and spread from thence to the West-India islands, Grenada, and the Spanish settlements in South-America. At each time it appeared it assumed the same forms and appearance it has in America, and from its history is the same disease. It generally comes on in November, and disappears in June; the cough continuing more or less throughout the summer and fall.

In 1814, the cases which came under my observation would not bear the lancet nor strong catharties; the winter following, at its commencement, blood-letting proved to be the principal remedy, and the anchor of

hope. The spring following I had to lay aside the lancet again, except in some few cases.

In considering the cure, three grand indications presented: 1st. To remove the inflammation; 2dly. To promote expectoration; and, 3dly. To lessen the febrile action.

In order to come at the first indication, it was necessary to remove the bilious acrimony by Glauber's salt and tartar emetic combined; after this, gentle doses of castor oil was sufficient to keep the bowels open. Where the inflammation was local, as it generally was, epispastics had the most desirable effect in relieving the pain and soreness; vinegar whey at night, with or without the spt. nitri dulc. And, to fulfil the second and third indications, six grains of tart. antimon. was dissolved in a pint of flaxseed tea, and a table-spoonful given each hour. If it produced too much nausea, or operated on the bowels, it was weakened with more flaxseed tea, in preference to adding tinct. thebaic, or tinct. opii camph. The diarrhœa which sometimes attended the disease was most happily checked by giving ipecacuanha, nitre and opium combined, and given in the manner and form of Dovar's powder. When the force of the disease fell on the throat, it was allayed by an emetic, tar plaster, the volatile liniment, and blisters on the back of the neck; blisters on the fore part of the neck had not that good effect. When it fell on the intestines, epispastics, warm bath of bitter and aromatic herbs, neutral salts, and ol. ricini, generally afforded relief. When on the joints or extremities, sweats with aromatic herbs, &c. a liniment composed of ol. lini. spt. camph. tinct. thebaic, spt. tereb. and spt. ammoniæ were mixed and rubbed on the part.

All drastic purges seem to invite the inflammation to the intestines, producing a violent obstruction not to be removed by the most active cathartics.

Opiates prove a disadvantage, by checking the expectoration; and all kinds of spirit prove extremely hurtful, by increasing the dryness of the fauces, difficulty of breathing, and aggravating the pain and soreness in the breast.

I have seen all those symptoms greatly augmented by one swallow of weak toddy, although the pulse seemed

to demand it; true, it would raise the pulse, but, at the same time, increase the above symptoms to an alarming degree.

Whatever increased the pulse, seemed to hurry on the circulation in the lungs, and to increase the inflammation there; of course it points out the impropriety of treating it as a typhus fever, notwithstanding in some cases there appears to be some analogy. Was this disease at first blended with the camp fever? Was it brought to this country by the British soldiers?

Observations on Tetanus. By Jabez W. Heustis, *M. D. late Surgeon in the Army of the United States.*

(Concluded from p. 134.)

A Variety of remedies have been externally employed for the purpose of removing tetanus. These are applied either to the seat of the original injury, or to some other part of the body.

The applications to the wounded part are escharotics, the actual cautery, spirits of turpentine,* and other stimulating substances.

An attention to the wounded part should, no doubt, be an object of primary consideration; for at the commencement of traumatic tetanus we can have no hesitation in saying, that the condition of the wound, and the irritation therein existing, are the immediate cause of the disease. But this condition of the wound is not to be determined by local appearances, consisting either in the presence or absence of inflammation, which is sometimes excessive, and at others deficient in degree. Suf-

* Dr. Rush speaks in high terms of the efficacy of spirits of turpentine when employed in the beginning of the complaint, observing, that he "never knew a single instance of tetanus where this remedy has been applied in time." Lond. Med. Mem. vi.

We are informed by Dr. Chisholm, that Dr. John Stewart employed spirits of turpentine in the prevention of the trismus nascentium among the negro children of the island of which he had the charge, with equal success. Essay on the Malignant Pestilential Fever.

fice it to say, that both conditions are equally unfavourable, and, therefore, require to be obviated. The Baron Larrey, found an excess of local inflammation preceding the appearance, and accompanying the progress of tetanus in many cases.* He also observed a defect of inflammation in other cases, attended with suppression of the purulent discharge from the wound; and that, under such circumstances, the application of a blister plaster restores the excretion, and sometimes succeeds in the removal of tetanus. Though, with other authors, he complains of the general inefficacy of various local applications, such as cataplasms of tobacco, alkalies, moxa, and even the actual cautery itself, though it relieved the symptoms, with the exception of one or two cases, did not succeed in curing the disease. Compet also, in treating of the prevention and cure of tetanus, insists much on scarifying the wounded part, and on the means of inducing and supporting suppuration;† more especially in pricked wounds of the plantar aponeurosis, a very common accident to which the barefooted negroes are exposed.

Among the external general remedies may be enumerated blisters applied to different parts of the body, hot iron, electricity, &c. together with the external general application of warm and cold bathing; all of which, on different occasions, have been found successful in a few cases; although, except the two latter, I do not regard them as of sufficient importance to claim particular consideration.

Warm Bathing.—Boyer‡ informs us that Bajon, who saw many cases of it in Cayenne, placed his chief dependence upon this remedy. Dr. Chalmers commenced the treatment with blood-letting, after which the patient was put into the warm bath, which, according to his observation, was almost the only means of restoring the power of deglutition. Boyer observes that he has often employed the warm bath in the treatment of tetanic patients, and that although their utility was not very

* Relation Chirurgicale de l'Expedition de l'Armée d'Orient.

† Traité Pratique des Maladies graves qui regnent dans les contrées situées sous la Zone torride.

‡ Boyer's Surgery, vol. i. translated by Stevens.

striking, he did not observe them to be hurtful, when proper precautions were taken to move the patient very gently. As the least circumstance is capable of renewing and aggravating the tetanic spasms, it is more than probable that the motion unavoidably necessary in employing this remedy, by increasing the symptoms, more than counterbalances the benefit derived from it. Further, we are informed, that in many instances the warm bath has proved decidedly injurious, and in some evidently hastened the death of the patient.*

Cold Bath.—Several cases are recorded which prove the efficacy of the cold bath.† It is not, however, adapted to patients much debilitated, as the system in such a state is unable to sustain the shock. Hence the fatality of the practice as employed in the East-Indies. Dr. Gurdlestone tells us that the cold bath uniformly destroyed life in every case in which it was employed. Under the opposite condition of strength of body and vigour of circulation, particularly when occurring with dry skin, increased temperature, and febrile action, it promises to be serviceable. The efficacy of the cold bath seems to consist in the sudden and general shock given to the system, breaking in upon the habit of morbid action after the manner of electricity. In employing it the patient is either immersed, or the water is applied by effusion; he is then conveyed to bed, and treated with the sweating regimen. I presume, however, that it is in those cases of tetanus which are attended with fever that cold bathing has proved particularly serviceable.

The treatment of tetanus by internal remedies, consists either in producing a state of insensibility or torpor of the system, by the exhibition of narcotics, or in producing a new impression upon the muscles, different from, and incompatible with that which gave rise to the disease, in the same manner as by external general applications.

* Hillary's Observations on the Diseases of Barbadoes, p. 235. De Haen.

† Edinburgh Medical Comment. Medical Observations and Inquiries, vol. vi. London Medical Memoirs, vol. iii. Currie on Water. Medical Repository, vol. iv. p. 76.

Opium.—Of all the remedies that have been employed for the cure of tetanus, none has been more generally used, or gained greater reputation than opium. The *modus operandi* of opium, according to Dr. Cullen, consists in diminishing the mobility, and in a certain manner suspending the motion of the nervous fluid to and from the brain.* Now if, as many physiologists suppose, the contractile power of the muscles is dependent upon the influx of the nervous fluid, their power of contracting must immediately cease, when this motion of the nervous fluid is suspended; so that, provided this effect can be produced from the exhibition of opium in tetanus, the spasmodic affection of the muscles must immediately cease. It is not, however, an ordinary dose that will produce this effect. Immense quantities of this medicine are sometimes given without any sensible effect. Besides, large quantities of opium are known to have the power of materially injuring the stomach. Dr. Rush, speaking of the inefficacy of opium in his own practice in removing tetanus, mentions the dissection of the body of a patient who had died of this disease, and to whom large quantities of opium had been given. "The stomach," he observes, "was found partly inflamed and sphacelated." This has been the usual appearance from dissection on similar occasions. Another effect of opium is to constipate the bowels, which, in irritable habits, may prove injurious. These objections seem to militate against the use of opium in the cure of tetanus; but before we pass judgment against it as being altogether inadequate in power, and improper in quality for the cure of tetanic affections, we ought to consider whether the objections that have been raised against it have not been owing rather to a defect and impropriety in the exhibition, than to any fault in the medicine itself. It is doubtful to me whether the debility occasioned by opium is more prejudicial than a similar degree produced by other powerful and diffusible stimuli. Opium certainly possesses the power of inducing a general state of insensibility in the system; so that the sensorium commune shall have no consciousness

* Materia Medica, vol. ii. p. 189.

of an existing irritation in any part of the body. Now, in proportion to the degree of force and violence in the morbid irritation, will be the difficulty of subduing it. And as every medicine by repetition is rendered less and less powerful in its operation, it must appear obvious that a proportionate increase of the dose will be necessary at every succeeding exhibition to produce the same effect, (provided the intervals be long) admitting that the force of the disease remains stationary; but as, in the mean time, the disease gains strength, and becomes more confirmed and inveterate by continuance, it is evident that barely no more than this proportionate increase of the medicine, to the decreasing sensibility of the system with respect to it, will not be equal in its effects upon the disease to its former exhibition, which was actually less: so that at every succeeding exhibition an allowance is to be made in the quantity, not only for the decreasing sensibility of the system, but also for the actual increase in the violence of the disease. It is owing to a neglect of these considerations that opium has proved so often ineffectual in the cure of tetanus. To be of efficacy, and in order that we may reap the full advantages of its exhibition, it is necessary that a quantity sufficient to counteract the morbid irritation be given at once. Doubt of success, and apprehension of consequences, must not accompany its exhibition; the medicine should be given with a firm and liberal hand, or not at all; but the violence of the symptoms must direct the physician in the quantity that is necessary; for experience teaches us that it is weakness and folly to exhibit opium by the grain, and laudanum by the drop in tetanus; and when we observe a sage professor gravely prescribing five drops of laudanum in a table-spoonful of white French wine, to be exhibited every hour,* we have reason to apprehend the unhappy consequences of his pusillanimous practice. Such a practice, to use an observation of the illustrious Zimmerman, may be placed in comparison with that of a

* I allude to Professor Mursinna, whose observation upon this subject may be found in the Edinburgh Medical and Physical Journal, vol. ii. p. 436.

man who should attempt to make a breach in a fortification with the same kind of shot that he is accustomed to use for the destruction of birds. Half a dram of opium may be considered as a moderate dose; but I prefer the tincture, as being more immediately powerful; the whole force of the quantity received being exerted at the same time, two, three, or more drams of this may be exhibited at a dose, which should be repeated and increased if the symptoms do not abate in eight or ten minutes, and so on, till the tetanic symptoms are removed.

Since first writing the above, I have had the happiness to discover a coincidence of sentiment and prescription in the practice of Dr. Joshua Fisher, vice-president of the Massachusetts Medical Society,* in illustration of which he mentions the case of a young female, affected with tetanus, for whom he ordered twelve grains of opium every ten minutes, until she had taken seventy-two grains, which removed the spasms, produced a comatose insensibility, slow sterterous breathing, and a slow full pulse. After an interval of eight hours the spasms began to return, and the remedy was given as before, and with similar result. In this manner the opium was repeated, at intervals of eight hours, for three days, when the spasms finally ceased, and she recovered. During this period of three days, she took nearly eleven drams of excellent opium. Dr. Fisher assures us, that by exhibiting opium in this manner, he is always enabled to remove colica pictonum, or Devonshire colic, in about an hour, without ever knowing the disease to return, or any ill consequence whatever to take place. I cannot help noticing, in this place, the brevity and imperfection with which Dr. Thomas has treated this subject; who, destitute of any fixed or rational principles of his own, fluctuates in practice with every wind of doctrine. He says opium "should always be given in moderate doses at first, and so be gradually increased."† Such is the practice which careful

* See the Medical Papers communicated to the Massachusetts Medical Society, No. ii. part 1; also the Medical Repository, vol. xii. p. 276

† Thomas' Modern Practice of Physic.

timidity enjoins and pursues, but which fatal experience condemns.

Mercury.—This is a medicine that has gained some repute in the cure of tetanus. We are told that in order to insure its good effects it is necessary to use it in considerable quantity, more especially by friction in the forming stage of this disease, so as to excite salivation speedily, and that, to promote this effect, the patient should be put now and then into a warm bath, and kept in a warm room.* Much, however, is not to be expected from it in the confirmed stage of this disease; for being a tonic that pervades the system slowly, it is not calculated to make that sudden and powerful impression on the system, so necessary for the cure of tetanus. Accordingly, it is not a medicine on which much reliance can be placed with safety in the treatment of a disease so formidable in its nature, and rapid in its progress. Dr. Moseley, whose extensive practice and erudition of ancient authors entitle him to respect, speaking on this subject, observes, "if it be urged that the application of mercurial friction is an invention of the moderns in this disease, I answer, it is my opinion, that mercury used in tetanus has killed more than it has cured. And further, that I suspect those who have recovered when this remedy has been used, would have recovered without it; for many people have been attacked by tetanus in the West-Indies under a course of mercury."† We are also informed by Larrey, who had extensive opportunities for information during the residence and campaigns of the French army in Egypt and other places, that mercurial frictions appeared to aggravate the disease.‡ Our countryman, Dr. Klapp, in relating a case of tetanus which arose from the healing of an ulcer on the foot, wishes to impress upon our minds the efficacy of a salivation in the cure of this disease, when it appears, from his own statement, that salivation did not take place till the fifth day after the exhibition of mercury: and as the disease had existed several days before the Doctor was

* Edinburgh Medical Essays, vol. iii. p. 554.
† Tropical Diseases, p. 478.
‡ Larrey's Memoirs, translated by Hall, vol. i

called, the critical period of danger, in all probability, had passed previous to the occurrence of the salivation; and had not the disease been unusually mild, death would have anticipated his wished for operation of mercury.*

Tincture of Cantharides.—This remedy was successfully introduced into practice for the cure of tetanus by Dr. Brown, of Kentucky, since which it has happily succeeded in a few instances in the hands of other practitioners; but, on the other hand, instances are not wanting of its failure. Upon the whole, it does not appear to be a very eligible prescription. If we wish to produce local inflammation, it can be much more safely excited (and probably with as much effect in removing the disease) upon the surface of the body, than in those of the delicate internal organs.

Wine.—Several cases of tetanus are recorded in which wine has been exhibited and the patients recovered;† but, upon the whole, it does not appear to be a medicine of sufficient power and energy of action to cope effectually with the gigantic and unmanageable strength of this disease. The insensibility of the system in tetanus to the most powerful agents, is well known. Such is the force and obstinacy of this morbid irritation to which tetanus owes its existence, that it does not admit of being counteracted except by a very powerful and sudden impression. In order to produce this effect, large quantities of wine are frequently necessary. Dr. Currie, in the relation of the case already alluded to, notices the immense quantity of wine consumed by the patient; and although he finally recovered, the event by no means satisfactorily establishes the efficacy of the exhibition. This appears evident from his own statement, when he observes—"it was not, however, till he had been *forty-*

* Perhaps it may not be considered improper to remark, in this place, that the recovery of a patient in many cases, is not proof of the utility and efficacy of the remedy employed. A medicine of improper quality may be forced upon the subject of experiment in excessive quantity; and, notwithstanding the officiousness of the Doctor, and the pernicious operation of the drug, the constitution still bears up against its influence, and the patient finally escapes with life.

† Medical Repository, vol. iii. No. 1. Rush. London Medical Memoirs, vol. i. Currie's Reports, Appendix, p. 10.

two days under this treatment that his safety could be ascertained, and during this time he swallowed a hundred and ten bottles of port wine."*

I conceive that a means better calculated to accomplish the object of our present indication will be found in the exhibition of a large portion of alkohol, spirits of ammonia, æther, or laudanum, repeating the doses, if necessary, in rapid succession, until the desired effect is produced. Administered in this manner, we ensure the full effect of a stimulus, which, if exhibited in small and divided doses, would produce very little if any sensible benefit.

We may hence see the force and propriety of the practice pursued by the quack mentioned by Latta, in a case of hysterical opisthotonos. "The friends of the unhappy sufferer, perceiving that regular physicians could do no good, at length employed a quack, who cured her in the following manner, no less extraordinary than the disease itself: having blown out a candle which had been well lighted, he thrust the wick, red and smoking, into her nostril; he then ran to the tea-kettle of water, which he had made to boil, and kept boiling on the fire, he poured out about a wine-glass full of it, and running to the patient as quick as possible, that the water might not lose its heat, poured it down her throat. The operation of these two herculean remedies was instantaneous: she recovered in a moment from the fit of spasm which had so long obstinately resisted the use of laudanum, æther, &c. in very large doses, and soon got well of the disease altogether."†

It is probable that the practice of the quack in this instance was rather an experimental attempt, than the result of reason and reflection; but the treatment itself, however eccentric, is consistent with the pathological principles of this disease. The same remedy would be equally proper, and perhaps effectual in other cases of tetanus; at least it is worthy of trial in desperate cases, though the probability is that one less unpleasant would be found as effectual.

But it should be recollected that the lenient mode of practice is not only negatively evil by doing no good,

* Med. Reports, Appendix, p. 11. † Latta's Surgery, p. 34, 35

but is positively prejudicial by the actual injury which it produces in permitting the symptoms to become more aggravated and uncontrolable by continuance: for in no case is the adage, *non progredi est regredi,* more applicable than in the present instance.

Blood-letting.—Although this is not a remedy adapted to the ordinary and simple form of tetanus, yet, as in a few instances it may be advantageously employed, it seems proper to mention it here.

In a small proportion of cases, fever, or plethora, is attendant upon tetanus, and as such a co-existence of diseases aggravates the symptoms of this disorder; blood-letting, under these circumstances, should be resorted to. In all other cases, however, the operation cannot fail to be prejudicial; for our only object is to subdue inflammatory action, which increases sensibility to the morbid irritation. When, therefore, such a state does not exist, it is obvious that no benefit can be derived from blood-letting, but that much injury may be the result, inasmuch as the system is debilitated by the evacuation, and the patient thereby rendered an easier prey to the violence of the disorder.

The third indication, which is *to restore tone to the system,* may more properly be considered as a preventive than as a curative means; or as a restorative measure, which becomes necessary after the disease has been removed by some of the curative remedies already mentioned.

As answering the object of our present indication, bark may be employed with advantage. We are informed by Dr. Rush, that when the approach of tetanus is indicated, by a stiffness in the neck, or a disposition to bend forwards in order to relieve the pain in the back, costiveness, a pain about the external region of the stomach, and a disposition to start in sleep; that in this feeble stage of the disease, a few doses of bark, an emetic, or a strong dose of laudanum, have often prevented its being completely formed.

I shall now conclude this subject by a brief recapitulation of the most approved method of treatment.

Should the disease arise from mechanical injury, let the wound be examined, extraneous substances removed; and in case of puncture, the orifice may be dilated, and

the part fomented with hot spirits of turpentine, &c. which is also proper in other varieties of wounds. Should fever prevail, employ bleeding; if carried to the extent of deliquium it will probably have the better effect. Let tincture of opium be exhibited in liberal quantity agreeably to the preceding directions; or in place of which tobacco injections (which, as a popular remedy, I had neglected to mention, has sometimes proved effectual,) may be employed. Blisters may prove serviceable, and can do no harm; but as you value the life of your patient, avoid the employment of mercury.

Upon this subject let me caution the physician against the injudicious administration of tonics. I have already observed that a febrile action increases the severity of the tetanic symptoms, and it is the tendency of all stimulants taken internally to produce this action. The disease, therefore, should be immediately removed, before this state of the system can be produced by the operation of the remedies employed. The disease, I say, should be immediately removed, because the thing I believe is practicable, and that tetanus admits of being cured with as much or greater facility in ten minutes than in as many hours.

I might here illustrate the foregoing remarks, by the relation of cases that have fallen under my observation; but as the subject has already been extended to a considerable length, I shall avoid the tediousness of a particular detail, by briefly observing, that in a case of tetanus alluded to above, arising from a contusion on the foot, when the usual practice of exhibiting opium by the grain had been pursued with no effect, that the exhibition of a table-spoonful of laudanum in a draught of brandy, together with bathing the foot in hot spirits of turpentine, gave an immediate check to the progress of the disorder, and that a repetition of the remedy completely removed the disease.

The writer of these remarks had previously witnessed the inefficacy and fatal consequences of trusting to bark, brandy, and laudanum in small quantities, and was, therefore, confirmed in the necessity of a different treatment—a treatment which principle and practice vindicate and approve.

Remarks *on the Processes of* Disinfection *by Muriatic and Nitric Acids. By* M. P. Lefort, *M. D. of the Faculty at Paris, late Inspector of the French Hospitals in England, Physician in Chief to the Navy, &c. &c.*

(Concluded from p. 148.)

IN his letter of the 18th June, 1798, addressed to Dr. Smyth, captain Lane, after having given a pompous account of the means by which he arrived at the true mode of operating, adds, that by means of the fumigations he arrested a highly alarming malignant fever, which broke out on board of a prison-ship; he preserved the greatest degree of health in the prisons; and, lastly, that the French entrusted with the charge of their sick, having sent away the ingredients and utensils necessary for the fumigations, from that time the malignant fevers recommenced.

This is one of the strongest pieces of testimony, to all appearance, that has been adduced in favour of the fumigations. The reality of it demands inquiry. And that my readers may comprehend every part of the transaction, I shall examine particularly the different points of captain Lane's letter.

That before our arrival at Plymouth, which was but a few days after the captain had written to Dr. Smyth, there had actually prevailed, in one of the floating places of deposit for prisoners, an *alarming malignant fever*, is a fact that may be granted; but how happened it that captain Lane, with whom I had free and frequent intercourse of business and civility, for two whole years, never said a word to me on the subject of this pretended alarming malignant fever? How came it to pass that the officers appointed to take care of the health of the French prisoners, and who were provisionally charged with the service which I came to organize, never mentioned to me a word about it? Why did not the commanders of the prison-ships, who must, some one or other of them, have known something about this alarming contagious fever, inform me of the occurrence?

Their silence, as well as that of the captain, upon a recent case, and one of such importance, is wholly incapable of explanation. But, admitting that such a disease had really existed, can it be seriously contended that it was fumigated away from the prison-ship where it prevailed? Contagious fevers, those especially which are detached, when left to themselves, do they not always cease after a certain lapse of time? And in this case, captain Lane, as well as they who made the first trials at Dijon, have ascribed to the fumigations alone, what was due to a concurrence of causes entirely different. How many motives were there to render the deception easy! I might affirm as much about the existing health, as captain Lane does concerning the restoration of it by his fumigations. The reader may now judge for himself of the reasoning these gentlemen have adopted, or rather of the pitiful sophistry which is interwoven with all their observations.

I have expressed doubts only as to the existence of the malignant fever which captain Lane supposes he had arrested by means of the fumigations; but I am obliged to give the lie direct to the latter part of the letter, where he says, "the French, having rejected the ingredients and utensils necessary for the fumigations, the fever immediately began again."

Let us take up the facts and the dates.

At the very time that captain Lane thus accused the French health-officers with having provoked a renewal of the malignant fever among the prisoners, they had been no more than two months and a half charged with taking care of the prisoners' health; and it was five days after the date of his own letter to Dr. Smyth that we arrived at Plymouth. The number of French prisoners at this rendezvous was about nine thousand. The number of the sick did not then exceed six hundred, including sixty wounded men from the ship Hercules, which had just been captured. Now, among these sick men, the number of whom was so inconsiderable in comparison with those in health, there were no more than seven or eight fevers of bad character. Part of these came from the Hercules. From this statement, one of two things is to be inferred, either that no malignant

fevers had broken out among the prisoners for two months and a half that the French were charged with the health service, or that the malignant fevers, if they had existed, had disappeared of themselves, and without the aid of the fumigations which the French officers had neglected. Captain Lane would have been very much puzzled to answer the arguments which we should have constantly stated to him, if we had had a knowledge of his letter to Dr. Smyth. But it seems that this officer, as soon as he found he was wrong, felt ashamed of his error, and never, on a single occasion, during my residence of two years at Plymouth, did he speak to me of fumigations, or of his letter to Dr. Smyth, with which I had no acquaintance until two years after, in his own publication.

In fact, the French health-officers had neglected, or laid aside the fumigations, before my arrival at Plymouth; although they had been employed in the hospitals and prisons some months before with a discouraging exactness. They had observed that the vapours sensibly incommoded all those who were exposed to their action; and that the practice led infallibly to idleness, and a relaxation of all the means of cleanliness. I caused them to be suspended totally, soon after my arrival, but I enforced more strenuously the measures conducive to cleanliness and ventilation. By these methods *alone*, a degree of health perhaps unexampled, was continually preserved among the prisoners, during the two years I superintended their health in England.

The truth of this assertion is substantiated by the correspondence I held with the agent of the French government in London; and I might venture on this head to appeal to the testimony of his majesty's superintendent himself.

Now, if instead of rejecting these fumigations, I had continued their use, as the English did, the absence of all sorts of contagious matter during a term of two years, would have been ascribed to their sovereign virtue. The story would have been magnified by saying that all this happened among eight or nine thousand prisoners, piled almost upon one another. And after

all the false glosses, this very piece of evidence would have been quite as good as filling up several volumes that have been compiled on the subject, and addressed to the credulity of mankind for establishing the astonishing excellence of the gases.

The plague, the yellow fever, malignant fevers, and all the scourges of that class, which from time to time afflict humanity, may now find, says M. Morveau, in *this fine gift of modern chemistry*, a mortal enemy. It would seem that they were only waiting for opportunities to make trials to confirm their efficacy. It has pleased Providence to multiply such opportunities on all sides for twenty years past. And what is the result of the employment of the fumigating gases? Have the physicians preserved our armies in the East from the plague? Or have they cured them of that wasting distemper with their fumigations and their gases? Would the learned and ingenious Desgenettes, physician-general of that army, have neglected the use of acid fumigations if he had supposed them proper to prevent or cure pestilential fevers? Would he have forgot to publish the results if they had been found favourable to the new method of pretended disinfection? It is easy to discern that it was their absolute nullity that in this case rendered silence necessary. What I have observed of the nullity of fumigations in the plague, I apply with equal force when I speak of malignant fevers of camps, of jails, of armies, of hospitals, and of the yellow fever itself. Have we seen that the malignant and contagious fevers that have prevailed for the last twenty years in our armies, and more especially in those of Italy, during 1798 and 1799; in the grand army during 1807 and 1808, in Austria and Prussia, have been arrested by the employment of fumigations? Have we seen what effect the fumigations have produced in resisting the yellow fever throughout the United States of America, over Spain, and at Leghorn? And truly, in the whole collection, there is not one experiment that warrants a favourable opinion of them!

The English Monthly Review, for November, 1811, expresses surprise that in the report published in England on the fever which made such mortal ravages

among the English troops at Walcheren during 1809, there was no mention of Dr. Smyth's famous fumigations for checking the deadly progress of that contagious distemper. This silence of the English physicians on the method of disinfection, for which the government had so well rewarded the author, is considered by the editors of that literary journal, an instance of most culpable negligence, and worthy of a public investigation.

If the worthy managers of that review would reflect a little on the subject, they would put the proper construction on this silence. Men of great distinction were sent from England to Walcheren, to devise some means of staying the mortality. Several of their own number fell victims to the contagious fever which they were sent to encounter. They were entirely silent on the efficacy of the acid fumigations. The reason is as plain as day-light. They had nothing to say in their favour. There could be no other motive for passing them by unnoticed. Nevertheless, the authors of the report have been reproached for omitting to mention them as expedients against the Walcheren fevers. They deserve reproach, for the false and culpable delicacy of silence. Their conduct is far less commendable than that of the Spanish physicians, who published boldly to the world, in their remarks on the yellow fever, that no prophylactic could save armies from the attacks of malignant fevers, while they were exposed to the agency of the causes that produced them, or until those causes were removed. We learn, in fact, from the numerous accounts given of the Walcheren sickness, that it was only after their return to England, and a residence for a considerable time out of the noxious atmosphere, and in a most salubrious air, that the miserable remains of the army that had been sent to Walcheren were saved from a distemper that destroyed five-sixths of the soldiers.

Immediately after the termination of the yellow fever which ravaged Cadiz and a part of Andalusia in 1800, on the faith of reports too officiously forwarded. M. Morveau, in the book already quoted, and Dr. Odier, in that of Dr. Smyth which he had translated, say,

"we owe the discontinuance of this fever to acid fumigations." Now, from the report made by Dr. Berthe, of the disease that prevailed in Andalusia during 1800, (and Dr. Berthe was a member of the board of commissioners sent to Spain by the government of France,) the following conclusions are fairly drawn: 1. The fumigations were employed very late in the season, that is to say, when the disease was almost done; 2. At Seville, where they were employed earlier, there were, in proportion to the population, as many sicknesses and deaths as in other places; 3. In Cadiz, and in some other cities, fumigations were never employed at all until the distemper had ceased; and, 4thly, there were several places where fumigations were never thought of, either during the continuance of the disease or afterwards. This judgment of Dr. Berthe and of the commissioners, was confirmed, in every point, to me, six months after the cessation of the epidemic at Cadiz, by the most distinguished physicians of Cadiz, such as Arejula, Capmas, and others.

I request my readers to peruse the numerous accounts of the same epidemic as it prevailed at Cadiz in 1804. I particularly mean that of the governor of Gibraltar, and of the commercial agent at that place to M. de Castagnos, then commander in chief at the camp of Saint Roch. It will be found there, as an unanimous sentiment, that no *specific precautions*, thereby meaning all manner of fumigations, had not been able to moderate the distemper which desolated that part of the peninsula. This epidemic has, notwithstanding, been stated as a *positive fact* in favour of the preservative power of fumigations; and the fact made no small noise at the time, especially among those who give place and credit in their writings to pretended facts upon the most slender and equivocal evidence.

A numerous family in Cadiz, who placed the most entire reliance in the virtue of fumigations, undertook, at the commencement of the last epidemic, in 1804, to brave courageously the danger, by putting the *grand preservative* to the test. Marchais, the servant of this family, ran, in the name of his master, to all the houses, for the purpose of teaching them the method of using it.

Its sovereign effects were widely proclaimed, and fully acknowledged. This family, by means of the remedy, an *innocent* remedy too as it was called, was preserved untouched, as by a miracle, in the midst of contagion and death.

Every body might have read at the time the letter which contains the details, and which was written at Cadiz, and communicated to the institute by M. Mongez. This letter was copied into the Philosophical Review, and the Moniteur of the 1st Frimaire, 13th year, and published in all the journals of the day. The evidence seemed to be conclusive and unanswerable. But, alas! alas! what became of the family which so imprudently confided in an innocent remedy? Of the seventeen persons of whom it was composed, there was but one alive in 1805. All the rest had sunk under the fatal disease. I learned this fact at Cadiz itself, where I happened to be once more in 1805; where it was confirmed to me by Dr. Capmas, a French physician, as much distinguished for his modesty as for his intelligence. He had lived through the two epidemics. He communicated to me all the information I could wish on the history and nature of their yellow fever, as well as of the pretended specifics with which they had undertaken to oppose it. I owe him the justice to observe, that I have made free use in this memoir of the knowledge derived from this accomplished gentleman. I shall refrain from all reflections on the cruel effects which proceeded from an excessive reliance upon fumigations. I shall not inquire whether the authors and provers of the pretended disinfections did deceive themselves, and then consented to deceive others; for it would be difficult to reconcile such abuse of their talents with their philanthropy and other claims to public respect. But if there are errors which refute themselves by the excess of their absurdity, there are others that are consecrated by time, by habit, by the authority of names, and, apparently, by the weight of facts. These usurp, over the generality of mankind, the empire that truth alone ought to possess; and they are the more difficult to eradicate as they touch our dearest interests. And the self-love which ought to work their speedy over-

throw, is the very thing which protects and fortifies them.

It is against such errors and against the authority of facts upon which ill-judging men have pretended to support them, that it is the duty of every honest man to make opposition.

Since the year 1794, when the processes of disinfection by the muriatic and nitric acids came into vogue, I have been seriously engaged on this important subject. In numerous voyages to France, England, Spain, Italy, America, &c. I have sought the acquaintance of the most able and well informed physicians, particularly of those who by their situations in great hospitals, and at the head of the health-service by sea and by land, had enjoyed the most frequent opportunities to employ preservatives against contagious distempers. I have consulted them; I have collected their testimony, their sentiments, their experience. I declare that few have been more solicitous than myself to learn the opinions of such a great number of foreign physicians on the doctrine of acid fumigations. Few have found themselves in circumstances more favourable than myself for being brightened by the light of others on this subject, as also for estimating for myself the actual worth of the new method of disinfection.

And now I have examined this doctrine, and explained the foundation upon which it rests; I have set aside all that is not proved; I have reduced matters to their proper value: What opinion, after this, can be entertained of the books published in its favour, and the extravagant praise bestowed on them by the public? By what seductive charm have they fascinated the eyes of the public that they could not change their object? How has it happened that they have not seen that this theory of the gases is uncertain and defective; and that the facts adduced in support of their anti-contagious efficacy are either false or negative?

It is that this doctrine of the gases has been brought into fashion at a time when chemistry appeared to promise miracles. It is because its authors enjoyed high reputation and credit. It is for the reason that the writing of one of them contained a good deal of wit.

learning, and show, ornaments which seldom fail to impose even upon the wisest. Finally, it is because the dearer life is to man, the greater is the terror of losing it upon his weak intellect; and there is no fable that he will not adopt to sustain the hope of preserving so precious a possession. The illusion concerning the anti-contagious virtue of the gases was thus an easy and very simple affair. But the remnant of it which still exists will not be slow to disappear. We can scarcely now compute the moral operations of this novel mode of disinfection, and its imposing effect upon the common sense of mankind. That apparatus of stands, of phials, of boxes, that vapour ascending from a flask as by magic, could not fail to attract attention, and even to seduce the imagination more strongly than the magnetic counter of Messmer, already consigned to oblivion.

Such is inevitably the lot of systems and doctrines which are not founded upon truth. Their reign must necessarily be transient. Sooner or later reason renders justice, and time reduces them to their nothingness. While truths, though opposed at their birth, and more or less buffetted in proportion as they oppose or shock the habits and prejudices of man, and thwart or wound private interests, triumph at length over all obstacles, and establish their legitimate and sovereign sway on the ruins of falsehood and fiction.

Opinionum commenta delet dies,
Naturæ judicia confirmat.

A Brief Account of the DISEASES *which prevailed at the Philadelphia Lazaretto, in the Quarantine Season of* 1815. *By* THOMAS D. MITCHELL, *M. D. Lazaretto Physician.*

IN presenting to the public a short history of the diseases which prevailed at the Lazaretto during the last summer, I would beg leave to mention a circumstance of some importance, and which may not be within

the knowledge of many persons. I allude to the healthy condition of the Havannah throughout the last summer. Although the arrivals from that port were numerous, and occurred at distant periods in the quarantine term, yet there was not a single sick person on board any of those vessels at the time of arrival, nor during their stay at the quarantine station. All the reports obtained from the masters of such vessels were declarative of the unusually healthy condition of the Havannah, and this was attributed by some of them to improvements made in the town, such as filling up of holes, which were formerly the receptacles of filth, and cutting new avenues through the town, for the purpose of admitting and diffusing fresh air. Should this once dreaded place continue thus healthy, it will be a happy circumstance for the people of this country, whether the yellow fever be considered an imported disease, or a disease of domestic origin.

But while a favourable revolution has taken place in relation to a port which was once regarded as the source of pestilential disease to some of our large cities, a revolution altogether unfavourable has had existence in one of our own towns. Such was the situation of Savannah with regard to its unhealthiness during the last summer, that many persons have declared they would not go there in the warm season for any consideration. The disease which I had to contend with at this place (for the most part) was similar to that described by Dr. White in one of the volumes of the Medical Repository. Of fifty-three patients, which was the whole number in the Hospital, twenty-seven came from Savannah. The natives of the eastern states suffered most; and six of the ten persons who died in the course of the summer, belonged to the state of Massachusetts, and were victims to this disease.

An old master of a vessel with whom I have conversed relative to the fever of Savannah, calls it the cotton fever, and not without some propriety. This leads me to the recital of the practice pursued in relation to vessels arriving from Savannah. It was commenced with the ship Washington, of Beverly, Massachusetts. Her hold and cabin were filled with bales of cotton, and there

were not less than three or four tiers of bales on deck. On her arrival, two of the crew were removed to the Hospital, and, on going on board the next day and the day following, new cases of disease were discovered, in consequence of which the cotton was ordered to be discharged, and the vessel well cleansed and white-washed. On going into the cabin after the cotton had been removed, there was a very perceptible damp or steam, which was quite disagreeable. The captain's clothes were covered with mould, although the ship had been but a few days on the passage. It was afterwards discovered that the cotton had been damp or wet when packed. Six of this ship's crew were my patients, among whom were the first and second mates; the two latter died of the disease, one of them on the fourth day, the other on the seventh. Of all the vessels that arrived from Savannah, subsequently to the arrival of the Washington, there was scarcely one that had not several of the crew sick, and lost one or more on the passage. Such was the condition of the crew of the ship William, of Boston, that it was necessary to hire two extra pilots to work her up to the Lazaretto.

Much is to be ascribed, in the production of this disease, to the circumstances under which the crews were placed while loading the vessels at Savannah. They were constantly exposed to the foul exhalations from a rice plantation on the one side of the river, and prevented from enjoying the fresh air in consequence of the high bluff on the other side. Thus were they placed for several days, labouring under the burning heat of a summer sun, and breathing the foul air of rottenness. Sometimes it happened that one or more of the crew were attacked with fever previous to quitting Savannah; but generally, complaints of sickness were heard on the third or fourth day after.

The symptoms which attended this disease, (which I have considered as a remitting bilious fever of a violent grade) were great pain in the back, and sometimes throughout the whole body, pains in the stomach, with violent retchings, sometimes, but not always accompanied with vomitings, great depression of spirits, insupportable pain in the head, delirium, pulse sometimes tense, some-

times very feeble, and at others apparently natural, high-coloured urine, costiveness, dry skin, &c. The pain in the head was the most unmanageable and distressing symptom with which I had to contend. In some of the patients, who had been ill for several days, and with no other relief than a ship's stores could afford, the disease went rapidly into a typhus, and an unconquerable stupor closed the scene. In all the cases which terminated favourably, intermitting fever occurred, and this was always a pleasing sign; because a violent and dangerous disease was changed into one which is, in almost every case, completely under the power of medicine.

In one of the patients who fell a victim to the disease, a peculiar circumstance occurred, which, as it was novel to me, I deem worth an insertion in this place. He had been afflicted with violent and most distressing delirium for several days previous to his death. Ice in bladders had been frequently applied to his head, but without any considerable relief. Sinapisms were also laid on his ankles, temples, &c. and a blister applied to the crown of his head, without any relief, and, previous to this, depletion had been employed. On the second day before his death, and on the day on which he died, his forehead was covered with a white powder of considerable thickness, which returned, on being wiped away, in a very short period. The powder was dry and light, but what was the nature of it I know not, as my engagements prevented me from examining it more closely.

Several vessels that arrived from New-Orleans with cotton, had some of their crews sick at the time of their arrival; but in no instance did a case of sickness occur in these vessels subsequent to their arrival. The cotton brought from New-Orleans is packed differently from that of Savannah; it is dry, and is forced into close contact by means of screws, so that the bales thus packed are almost as hard and solid as wood. The cotton brought from Savannah was, in almost every case, evidently wet, and was so loosely packed, that the bales were yielding and impressible. In the one case, a damp or steam was generated, so as to render the cabins and holds unpleasant; while the other vessels, viz. those from New-Orleans, were generally cool, dry, and whole-

some. My patients from New-Orleans were generally labouring under intermitting fever by the time of their arrival, so that I had but little difficulty with them. A few doses of bark, and, in some cases, a large dose of opium destroyed the fever completely.

Thus have I given a few desultory remarks, which, if they be no further serviceable, will at least tend to show, that while foreign ports are regarded as the sources of epidemic disease, there is good reason why our own ports should be watched, that the dangers arising from their unhealthiness may not be altogether overlooked.

REVIEW.

An Inquiry into the Nature and Treatment of the prevailing Epidemic, called Spotted Fever, &c. &c. In three Parts. *By* JOB WILSON, *M. B.* 8vo. pp. 216. *Boston.* Bradford & Read. 1815.

SPOTTED Fever has another valuable historian in the author of the present work. He is already known to us and our readers, by several interesting communications. He has enjoyed frequent and favourable opportunities of seeing the disease, and of observing its progress through every stage. Not satisfied with tracing it from beginning to end, he has sought information from the appearances discoverable after death by dissection. And being a practical man, he has given the result of his observations on the winter epidemic of New-Hampshire, and the neighbouring region in the north.

Dr. Wilson has turned his attention in a very particular manner to the climate of our country, and more particularly of New-England. He considers it as having always been very changeable; and that, since the year 1804, the changes have been greater and more frequent than before.

In proof of this opinion, facts are adduced from the vegetable world. Many plants of indigenous growth have suffered excessively from the increased and intense cold. Exotics have been injured in a still more considerable degree. Orchards have experienced the rigours of the winters to a very destructive extent. The mischief proceeding from this inclemency, is alarmingly on the increase. Many vegetables have been killed outright by the frost. Numerous individuals that survived the first shock of the winter, or rather of the sudden changes from cold to heat, and from heat to cold, have lingered along in a weak and debilitated state. Frequent have been the examples of vegetables thus injured be-

coming further debilitated, or of having their life destroyed by subsequent alternations of weather.

By the same pinching vicissitudes, animal life has been rudely assailed. The smaller and more tender creatures, such as domestic poultry, have been frequently frozen to death. The hoofs and horns of neat cattle have also been frozen, and inflammation, gangrene, and mortification been the consequences. Sheep, especially of the merino and Spanish breed, perished, more particularly during the winters of 1812 and 1813, in great numbers. And horses were tormented with heavy colds and coughs.

In regard to man, Dr. W. observes, that "so great and extraordinary have been observed the changes of temperature of late, that not even the hardiest constitutions, or those of the most robust habits, have been able to endure the changes we have suffered without receiving material injury. Nor indeed does it appear, that the savage life, in this respect, possesses any advantages over that of civilization. From history it appears that they have suffered even more severely; as might be expected, since they have not the comfortable lodging, &c. which a people in a state of civilization have." (Page 191.)

To this predominance of cold in the atmosphere, and to the great and sudden changes of temperature, are justly ascribed noxious action upon the animal creation. Man in an especial manner has experienced their morbid effects. His constitution has often yielded to the sudden transitions from one degree to another. Health has been deeply affected by the great, frequent, and sudden alterations of cold and hot, with their necessary attendants of wet and dry, and of tempest and calm. Such a mixture of the elements, perpetually working and changing, has been rationally supposed to produce epidemic distempers, by affecting many persons at or about the same time in a similar manner.

By cold, however, considered in a medical sense, is not understood any particular degree of refrigeration upon the thermometric scale. In like manner, by heat is not meant any stationary point to which the quicksilver may be elevated in its tube. These are the *abso-*

lute or *positive* quantities of caloric; to which, within certain limits, the human body can readily accommodate itself and be well.

The cold and heat that injure the health of man, are the *relative* degrees and proportions. A great, and more especially a rapid passage from a chilly air to a heated chamber, may produce disorder in the system, though the transition may not be exactly graduated. So likewise, when a man who is glowing with the warmth of a bed or a fire side, goes suddenly into a frigid air, disease may be apprehended, although the degrees between the two extremes should not always be equal or the same. The stimulation in the former case, and the torpor in the latter, with all the symptoms arising from their violence and duration, may altogether proceed from the relative succession of temperatures, and their successive effect upon a predisposed body. Thus the body of a person chilled by exposure to long and intense cold in the open air, may be rendered feverish by the sudden change to the comparatively great heat of a warm chamber and fire. So likewise the constitution of a man freely perspiring with the warmth of a dining-room, may be benumbed by a rapid transition to the gelid influence of external air when he goes abroad. And although the inhabitants of a country may and do become reconciled by habit to the ordinary mutations of the weather, there are, nevertheless, many alterations which are too great for the powers of the animal frame to resist. Hence fevers and chills, calenture and torpor, an increase of vital action, or a diminution of the functions of the living energy, may be the consequences of these varying exposures. When, in addition to these occurrences, dampness and winds are added to cold, the joint effect of these several agents will be the more operative and lasting.

The author has investigated these conditions of the atmosphere with much industry and research. He has reduced the meteorological phenomena to the form of tables, and deduced from these summaries and abstracts of the seasons, various interesting results. If his conclusions are correct, it will be confessed that epidemic

diseases of the most fatal character may arise without either the aid of contagion, or of marsh miasmatic influence on the human body.

The matter of the present publication is arranged under three heads: first, a compendious view of the climate and diseases of the New-England states, from the arrival of emigrants in 1607, and settlement in 1620, to the year 1806, with the dates and events, derived chiefly from Prince's Chronology; and thence over the United States to 1815, from the records of the Medical Repository and other publications; secondly, an inquiry into the particular nature of the prevailing epidemic; and, thirdly, a comparison of the slight inflammatory affection denominated catarrh or common cold, with little or no fever, with the active phlogistic diathesis consequent upon frigidity, and accompanied with local determination, forming ordinary pneumonia, ophthalmia, phrenitis, phlegmon, and the kindred maladies; after which he contrasts them both with what he terms *febris catarrhalis maxima*, or passive inflammation from cold, in most cases attended by more or less pyrexia, and usually denominated spotted fever.

To account for these disorders in the circulation at large, and for their attacks upon any particular viscus or organ, he shows that in our climate the alterations of temperature are often remarkably great in an exceedingly short time. In New-Hampshire Dr. Wilson has observed a difference of 61° in the course of a natural day; and Dr. Ramsay has noted a change of 46° between the different hours of the same day in South-Carolina. These, and other variations of temperature in the course of the twenty-four hours, occur, from time to time, all over the country, and more especially during March, April, and May. The most steady, or least variable part of the season, is during November and December. The cold currents of air from the icy regions of the north-west, north, and north-east alternately, with the heated winds from the south-east, south, and south-west, appear to be the agents in these remarkable vicissitudes. And so far is our author from believing that the temperature of our country is im-

proved by clearing and tillage, that he is seriously disposed to think a new era for the worse commenced in 1804.

Dr. Wilson expresses his conviction that the continent of North-America is colder than Europe, and even than Asia. He believes, nevertheless, that the summers are hotter than most countries in the same parallels of latitude. The annual variation of temperature is stated to be greater than that of any country whose registers of weather he has had an opportunity to examine; but, what bears more exactly upon the epidemic influence, the diurnal variations appear to be still more distressing than the annual. Particularly for the last twelve years, "the effects of these changes are so obvious, that we are constrained to believe that those great changes of temperature have had an important effect, if they are not the principal cause, in producing the present epidemic." (p. 126.) The study of our climate, weather, and seasons, is, therefore, recommended in strong and earnest terms.

Great, sudden, or rapid changes of temperature are considered as the predisposing and exciting causes of the popular distempers in New-England. Catarrh, influenza, and spotted fever are derived from one and the same source, and are but grades or modifications of the same disease. It is admitted that a single vibration of temperature is insufficient to produce spotted fever, however great and sudden it may be. To accomplish this there must be a series of changes to break down the inherent energy of the capillary vessels, and to destroy to a certain degree their active powers. And where this torpor was produced among the people of one of these devoted regions, the characters of it were legible in their countenances, which, as well as their hands and feet, were more or less of a purplish hue.

As far as can be ascertained from the origin, symptoms, and progress of spotted fever, and from dissection after death, the proximate cause would seem to consist in a torpor of the minute vessels of the skin and of the bronchiæ; but while the capillary tubes are thus held in a state of atony, there is an overcharge of blood in the lungs, heart, pulmonary vessels, and internal organs.

If both the capillaries and large arteries and veins are debilitated in nearly an equal degree, there will probably be no fever; because the equilibrium of excitement and circulation is supported throughout. But when, by reason of atony in the extreme vessels, the balance of distribution is destroyed, there may be too great a mass of blood about the thoracic and internal parts, and an inability to diffuse it regularly through the body. Hence may arise the struggle in the constitution to re-adjust the vital and propelling forces, to equalize the circulating fluids, and to restore once more the impaired functions to their proper condition. A fever is the consequence. The cold fit may continue for many hours, or it may be even prolonged for days. Many persons have been so violently attacked, that, not being able to survive it, they died under its operation. This disorder thus differs from a common ague or fever, a tertian or a quartan, by the violence and duration of the paroxysm, more than by any other circumstance. If the patient survives this benumbing and overpowering onset, a paroxysm of heat and reaction may succeed, the intensity and duration of which will depend upon the quantum of *vis insita* and *nervous power* inherent in the living solid. The extravasations of blood, the ruptures of the small vessels, and other lesions of the frame, are illustrated by six engraved figures of the appearances found by aid of the knife after death.

We wish it was consistent with our design to transfer to our sheets the whole of Dr. Wilson's third part, which contains the details of his practice in spotted fever. More especially we should have been gratified by enriching our work with his various directions and prescriptions for the different stages of this multiform malady, extending from page 194 to 216. He teaches, like a skilful master, when and how to employ the spur, and to use the rein. Judging from his book, we should say he possessed the true taste and fondness for the profession, which has inclined and enabled him to watch the minutest symptom, and to prove every circumstance and detail of a remedial kind.

On the whole, we consider this performance as a substantial addition to the knowledge we already possess

relative to this formidable pestilence, which has committed cruel waste of life in the United States, and which yet continues to rage in many parts of the land with destructive fury. The readers of the works published by Drs. North, Gallup, and Martin, and of the valuable tracts by many able hands, recorded in the successive numbers of our Repository, will peruse with edification the facts and remarks that have been embodied in the volume by Dr. Wilson.

We therefore refer both students and adepts to the book itself; concluding our review by observing, that this intelligent physician rejects the opinion advanced by some reasoners, that damaged bread-corn and scanty diet may have been the predisposing or remote causes of spotted fever; because (page 181) this disease has been known to prevail in years of plenty as well as of scarcity, and when the fruits of the earth were in great perfection.

Description of the Retreat, an Institution near York, (England,) for Insane Persons of the Society of Friends: containing an Account of its Origin and Progress, the Modes of Treatment, and a Statement of Cases. By SAMUEL TUKE. *With an Elevation of the Building.* 8vo. pp. 144. *Philadelphia.* Pierce. 1813.

MAGNITUDE is a very erroneous rule whereby to estimate the value of a book. We have seen rows of large octavos, extensive quartos, and stately folios, which added little or nothing to the sum of knowledge. On the contrary, it sometimes happens, that a brief memoir, or a moderate pamphlet, contains most interesting matter. Such a performance is now displayed before us. Diminutive in size, and plain in appearance, it recommends itself to notice by the excellence of its contents; for, in reality, the present is a very important publication. It would not, perhaps, be extravagant to say, that it is the most important tract on the practical treatment of lunatics that we have perused.

The authors of the undertaking described in the pages under consideration are Quakers. The habits and discipline of these Christian people are well known to be sober, regular, and exemplary. Their members are taught, in early life, the necessity of restraining their passions. They are peculiarly cautioned against the abuse of spirituous liquors. They are subjected to a most commendable restraint as to the unlawful commerce of the sexes. They are required to repress inordinate pursuits in business or for gain. And, in the enjoyment of a calm and temperate religion, they are neither exposed to the fervours of enthusiasm, nor to the terrors of superstition.

Yet, amidst such a society, the models of a temperance as exact as can be found in the civilized state, the mind becomes distempered with insanity. The cases were numerous and afflicting. The same benevolent spirit which led them to support their members when they became indigent, induced them likewise to provide for such as were deprived of their reason. The fact is a curious one, that persons of such systematic moderation, and so free from the excesses of vice and the extravagance of passion, should, nevertheless, be bereft of their understandings. It is no less curious to behold the experiments made by such an association upon their disordered members, and to learn the result.

The society of Friends have distinguished themselves as the determined and inflexible opponents of African slavery, in all its forms; and they have the consolation of witnessing the result of their efforts in the abolition or mitigation, in many places, of that abominable traffic.

The gentle temper of their religion and manners has also rendered them the adversaries of sanguinary and capital punishments. They have been gratified with the spectacle of a milder code of penal law in most of the states, wherein imprisonment and labour are substituted for flagellation and death.

And now the same class of citizens who have removed chains from the limbs of the slave, and snatched the cord from the hand of the executioner, have concerted a plan for the relief of the distempered mind. The

poor maniac, whom jealousy or policy had often removed from sight and recollection, and whom medicine with all its remedial means had in numberless instances failed to cure, has at length become an object of solicitous attention. The forerunners, the concomitants, the causes, the circumstances, and the consequences of insanity are developed by them in a way that is not only peculiar and their own, but uncommonly instructive. They seem to have accomplished much; and we proceed, without further preliminary, to announce the proceedings and their result.

The author of the publication is Samuel Tuke, grand son of William Tuke, the first active promoter of the establishment, and to whose persevering exertions for its welfare, (unrelaxed at the advanced age of eighty years) much of its present reputation may be justly attributed. This venerable man has the honour of the dedication. We rejoice to find our excellent and incomparable friend, Lindley Murray, among the most early and strenuous supporters of the institution.

Pressed by some touching difficulties in procuring for insane persons of their society the proper care and attentions, the quarterly meeting of York took the government and custody of maniacs into serious consideration as long ago as 1792. By degrees a plan was matured and carried into execution. The history of the proceedings from the infancy to the maturity of the project, occupies the first and second chapters of the work. The third contains a description and appropriation of the grounds and house, situated about half a mile from the eastern gate of the city of York, and commanding a very delightful prospect over a wooded fertile plain, to the distance of about twenty-five miles.

The medical treatment of lunatics is discussed in the fourth chapter. Of this we approve its application to the distempered objects in the Retreat; but how extensively, and why not more so, and from what motives medical science and physiology should be distrusted in the diseases of the mind more than in those of the body, are controversial topics which at present we are not willing to discuss; and we come to that fundamental principle of the *moral discipline*, already so much recommended

by celebrated physicians, and which is, that insane persons generally possess a degree of control over their wayward propensities. Their intellectual, active, and moral powers are rather perverted than obliterated; and frequently one faculty only is affected. The disorder is occasionally yet more limited, as in errors upon a particular subject, or hallucinations in a single sense; while, in other respects, the faculties are as entire as ever. The improvement of the remaining power of self-command is the basis of the new treatment. Inasmuch as this can be excited, maniacs and hypocondriacs become capable of decorous behaviour, and are at once, by an exertion of their own resolution, brought to a becoming line of conduct.

Fear is employed as an auxiliary to this voluntary restriction; but it is carried no further than is necessary for the peace and order of the family. Blows and stripes are forbidden, and indeed every form of corporal punishment. The chain is prohibited in all cases whatsoever. Patients cannot, therefore, be threatened with these severities. Of course these modes of exciting fear are out of the question. But they are managed in another way. They are arranged into classes, as far as can be done, according to the violence of their lunacy, or their approximation to rational and orderly deportment. In this mode, and by direct information, they are made to perceive that their treatment will depend in a great measure upon their own conduct; and that the coercion employed will be proportioned to the misconduct that shall render it necessary. In all cases, however, caution is used, that fear shall not be carried so far as to contract the understanding, to weaken the benevolent affections, or to debase the mind.

The superintendent of the Retreat has observed, that furious mania is often provoked by the harshness of the management. Oppression, as was long ago observed, makes a *wise* man mad. It can hardly be supposed that stripes, insults, and injuries, for which he who receives them can assign neither provocation nor cause, are very well calculated to restore a madman to wisdom. If we understand the system, cruelty is never necessary, and force but seldom. The *terrific* plan of treating the in-

sane is justified neither by reason nor experience. Yet the reasoning and expostulation with the patients must, however, be limited to subjects which involve their present comfort and their expected enlargement. It is worse than idle to enter into any explanations with them on the particular subject of their delusions. These can rarely be removed by argument; or, if by chance the dominant error should be overcome, it is almost immediately succeeded by another equally delusive or absurd.

In addition to the considerations already stated, the managers of the Retreat employ the *desire of esteem* very effectually in the recovery of maniacs. Great consequence is attached to this principle, in keeping them within the bounds of moderation, and in preventing the ebullitions of frenzy. By such a course of conduct it will be observed, that they are treated as much like rational beings as their condition will in any wise permit. And it will be as readily noticed, that the chief director ought to be a sensible man, and to improve the opportunities that offer of conversing with them on such topics as he knows will most interest them, and which, at the same time, will permit them to make the best display of their knowledge. Their minds ought never to be degraded by childish or domineering discourse.

In the close of all these motives to good conduct comes in *religion*. This is found efficacious in composing the afflicted soul, and in re-associating the scattered fragments of rationality. Composure and order are found to proceed from an attendance on a public meeting for devotional purposes, and from an association in a private chamber to listen to the reading of a few chapters in the Bible. These are some of the means employed to strengthen and assist the power of the patient to control his disorder.

Nevertheless, the malady may be too violent to be stayed and moderated by these methods. Then we are obliged to consider what kind of coercion it is proper to employ, when restraint is absolutely necessary. This is always to be viewed as a protecting and salutary discipline, instituted for the good of the patient, and by no means to gratify the passion or authority of his keeper. The principal modes are the following: 1. So-

litude. 2. Solitude in a dark and quiet room, where the darkness is not entire, but gloomy only. 3. Solitude, where not only light, but sounds are abstracted as much as possible. 4. Removal of objects acting through the medium of the senses. 5. Confinement by the straight waistcoat, with ability to walk about or lie down at pleasure. 6. Confinement in bed by an apparatus of straps and buckles, so applied as to allow room to change the posture and to turn. 7. In raving mania, the application of such restraint as would not be very intolerable in a state of calmness. In all cases, forcible coercion is considered as a necessary evil, and unavoidably retarding the cure, by its opposition to the moral regimen and discipline employed. It is, therefore, used only in cases of urgency, under a belief that the less it is used the better,

Such being an outline of the methods of making lunaties govern themselves, and of coercing them when they are ungovernable, another object of high moment is to devise means for the general comfort of the insane. These, among others, are the following: 1. Adapting conversation skilfully to the particular weakness of the patient. 2. Endeavours to draw them insensibly from the sorrow or error which marks the disease. 3. A general invitation, from time to time, of the female patients to a tea-party with the matron. 4. Permission occasionally to patients to visit their friends in the city. 5. A visit once a month by a female committee, to inspect and inquire how the patients are, and what additional comforts may be administered. 6. Forbearance of the visits of former intimate friends, unless when convalescence has considerably advanced. 7. On the return of reason, the conversation of judicious indifferent persons. 8. Introduction of convalescents into the society of the rational part of the family. 9. Indulgence in sitting up until ordinary bed-time, as soon as they can bear it. 10. The enjoyment of as much liberty as their situation will warrant. 11. Rational and innocent employment, to drive away ennui, such as reading, writing, playing at ball, and even games of skill, such as chess and draughts, avoiding plays of hazard, and gambling of every kind. Sewing, knitting, and domestic

arts, are peculiarly adapted to females; and convalescents may also be usefully employed in assisting the attendants. This is a sketch of the manner of conducting this department of the business. But it must be remembered that much of the detail will be determined at last by the good sense and sound discretion of the inspector.

Mr. Tuke proceeds, in his sixth chapter, to a statement of cases, and an indulgence of remarks upon them. This is the *finis et fructus*, the end and the improvement of the whole design. Its preferableness can only be tested by its efficiency to work the desired end. Experience, the best of all guides, authorizes the writer to draw various conclusions highly favourable to the plan, as achieving more for the cure of lunacy than is effected by the practice of the great mad-houses of London and Paris. From the opening of the Retreat, in 1796, to the end of 1811, there were one hundred and forty-nine patients admitted. Of this number sixty-one were recent cases. Of these thirty-one laboured under mania; of whom twenty-one were discharged perfectly recovered; two so much improved as not to require further confinement; two died; six remained in the house. The remaining thirty cases were of the melancholic class; of whom nineteen were discharged perfectly recovered; two so much improved as not to require further confinement; five died; and four remain in the house.

The old, or, as they are usually termed, the incurable cases, consisted of sixty-one afflicted with mania, twenty-one with melancholia, and six with dementia, a disorder wherein the mental powers are materially weakened, but coupled with general irritability, and occasional fits of mania, rendering the patients dangerous to themselves and others. Of the maniacal class of these, ten were discharged perfectly recovered; four so much improved as not to require further confinement; five were removed by their friends, improved; eleven died; and thirty-one remained in the house. Of the melancholic class, six were discharged, perfectly recovered; two so much improved as not to need further confinement; one removed by friends, somewhat improved; six died; and

six remained in the house. Of the victims of dementia, two were discharged as unsuitable objects; two died; and two remained in the house.

This bold inquirer does not terminate his reflections here. Consoling as his deductions are, he does not rest satisfied with their result. On investigating the origin of insanity, he has convinced himself that effects are often mistaken for causes. On a subject upon which it is exceedingly difficult to get correct information, he is inclined to suppose, that in the generality of cases, the imputed cause is in reality but the first overt-act, that was sufficiently *outré* or remarkable to attract attention. This remark applies, with peculiar force, to examples of insanity supposed to proceed from religious impressions, from unhappy marriages, and mercantile embarrassments; in the greater proportion of which cases, the insanity previously existing, but not clearly developed, manifested itself more plainly in theological, matrimonial, and commercial speculations. These several enterprizes may be deemed unfortunate, because they were ill-concerted and irrational. And the consequent disappointment and misery are only further disclosures of the original step which was itself a symptom, and not a cause of the malady. Extravagant devotion, foolish weddings, and preposterous contracts, are, therefore, less the forerunners of insanity than the indications that a crazy condition of the faculties had actually commenced. Analyzing the cases as far as he can, Mr. T. also concludes that intemperance, by which he apparently means hard drinking, is not so common a cause of fixed and permanent madness as is generally supposed. In most cases he favours the opinion that the erratic and bewildering fancies have arisen spontaneously in the minds of the patients, or at least, that they have proceeded from a cause too latent or obscure for us to assign in the present state of our knowledge.

We do not pretend that the present summary is a complete analysis of this interesting tract. Greater minuteness would extend our review beyond the space which our pages allow. They who feel concerned for a more particular account, may easily have recourse to

the performance itself. It certainly behoves all who seek information on the deplorable disorders of the mind, to give it a studious perusal.

Before we conclude this article, we must be permitted to enlarge it by a few more observations. New-York already contains an asylum for lunatics, of a most commodious plan, and very expensive construction. This magnificent edifice was described, and its conveniencies and dimensions stated in Med. Rep. vol. xi. p. 416—18. It has been in operation since the year 1808, under the direction of the Governors of the Hospital.

In the progress of society it has been found that this spacious building is too small to accommodate the lunatics who are offered. The necessity of frequently refusing admissions for want of room, was in itself unpleasant. It was regretted that relief could not be extended to all; and hopes were entertained that, in due time, this desirable object would be accomplished.

The demonstrative evidence contained in Mr. Tuke's publication has most happily concurred with the desire of the Governors to enlarge and improve their establishment for the insane. They have accordingly purchased a farm of nearly forty acres, between Manhattanville and Haerlem, for a Retreat. The spot is healthy, elevated, retired, and admirably adapted for the purpose of curing maniacs by *moral* treatment. The granitical strata which form its basis will furnish stone for the buildings. It is expected the plan will soon be ready for the mason and the carpenter to begin. There can be no doubt that every care and attention will be afforded by the gentlemen who embark in the undertaking.

Much activity was shown on this occasion by Thomas Eddy, Esq. a member of the asylum committee, a citizen already distinguished by his public spirit and benevolence. Impressed by the perusal of Mr. Tuke's publication, he read, as early as April 4, 1815, a memorial before the Governors of the New-York Hospital, warmly recommending a similar establishment, and demonstrating its practicability. This paper was afterwards printed in a pamphlet, under the title of "Hints for introducing an improved Mode of treating the Insane in the Asylum." This was followed by a letter from Mr. Tuke to Mr.

Eddy, " on Pauper Lunatic Asylums," which was also published, at the request of the Governors, in December, 1815; and by the receipt of another work by the same, entitled, " Practical Hints on the Construction and Economy of Pauper Asylums." The subject was next brought before the Legislature at Albany, as an important suggestion in the annual report of the Governors on the condition of the Hospital. This representation was heard with so much cordiality, that during the session of 1816, the sum of ten thousand dollars, in addition to the present liberal endowment, was granted, for the term of forty years or more, for the better treatment and improved accommodation of lunatics, and for other nosocomical purposes.

Having been thus begun under the most favourable auspices, we know so well the disposition of the managers, that we will vouch for the completion of the work. And in their effort to sustain suffering humanity under some of its heaviest afflictions, and to restore prostrate reason to her throne, we heartily wish to witness its benefits in the smallest possible time.

Pharmacopœia Nosocomii Neo-Eboracensis; or, the Pharmacopœia of the New-York Hospital. Published under the Authority of the Physicians and Surgeons of that Institution. &c. 8vo. pp. 181. *New-York.* Collins & Co. 1816.

THIS is the only part of the civilized world where the healing art is exercised without much formality or uneasiness respecting establishments of pharmacy. We do not make of it a distinct *profession*, which should require seminaries, or a tuition different from that of physicians and surgeons. We have no colleges, no institutions for pharmacopolists or apothecaries; and any person, male or female, who chooses, opens a shop of drugs and compounded medicines without a license, and under no restriction whatever except that of a general

police. Indeed, in this city we have had two *ladies* vending nostrums and patent medicines, besides many shops of herbs and of Indian roots. There are, however, well assorted stores, with all necessary and useful chemical preparations, and compounded medicines, kept by respectable druggists. These, in some instances, are professional men themselves, who prefer this kind of commerce to the employment of medical practice. They all deal in the best articles, and some have lately manufactured a great number of salts and oxyds, and legitimate compounds, with which they may supply city customers and country physicians. Apothecaries' shops, on a smaller scale of business, particularly for retail, are not wanting in the city; and many belong to physicians, or others, who, to make that business profitable, must be competent to it, or else the confidence of their customers would be, in the progress of time, withdrawn from them, and the more so as they would never be countenanced or patronized by eminent gentlemen of the faculty, to whom the public at large are accustomed to look for the *right stuff*, or for the best remedies.

In this state of our pharmacy, occasional errors in the sale or distribution of dangerous articles, we confess, may have possibly occurred from neglect or want of skill, and they are much to be lamented; but we assert, without fear of being contradicted, that they are not more frequent than in Paris, London, or Edinburgh, where pharmacy, as a profession, is *scientific*, *exclusive*, and privileged. Furthermore, in a country like this, our *numerous presses* are the first heralds and *trumpeters* of any thing that is against law, principle, and common sense: every singular or unfortunate occurrence is immediately published, to be handed about as a subject of *censure*, of caution, and of *exposure*; the first punishment unavoidably to be suffered by whomsoever deserves it, and which establishes character in business, or *destroys* it for ever.

It may be objected, however, that a great number of remedies, recipes, or formulæ already approved and adopted by us in private practice, cannot be easily procured from our shops, while medical and public authority neglects to attribute and invest the profession of pharmacy

with the just degree of confidence it deserves, and that reliance on its operation which would always afford encouraging emolument. True, and the public could then at any time be accommodated with all possible alexipharmacs, alexiters, panaceas, confections, &c. but these are no more important for the cure of diseases than alloyed coins in the box of alms. As for necessary prescriptions in practice, every physician in this country is generally supplied with his private pharmacy, made up according to the wants and callings of his own patients; to which he can resort at pleasure, from receipts and formulæ of which he is the best judge.

Such is the state of pharmacy in this and other large cities of the United States, and with little difference throughout the country. Hence many European visitors express some astonishment at what they think a neglect of an important branch of the healing art; and infer from it that we are still in the infancy of useful and scientific institutions. It is, however, very plain, that having commenced our political and social career precisely at the period of an enlightened age, and when natural philosophy and chemistry afforded to the healing art better remedies, exploding one half at least of the old pharmaceutic compounds, it was not to be expected that we should have given existence to the rejected forms of a profession, and to more than its practical and limited results, which are to remain under the sole control of medical science.

Φαρμακεια, *venenum*, *medela*, pharmacy, teaches how to procure and prepare those substances, simple or compound, which the healing art prescribes or recommends; and so far it had a very extensive dominion, when a multitude of poisonous, or inert or disgusting ingredients, when human bones, dead and fried animals, and the *album græcum* itself were articles of the materia medica. Its control progressively diminished, in proportion to the acquired knowledge of substances better analyzed, and of diseases better defined. During the most flourishing era of pharmacy, that is, in old times, natural philosophy and chemistry were little and seldom cultivated, and it belonged exclusively to pharmacy to direct its researches of mineral preparations

and metallic oxyds, saline compositions, and acids, &c. Hence an apothecary must be initiated to practical chemistry. But nothing did then contribute more to accumulate innumerable materials in apothecaries' shops, until the middle of the last century, than the belief in antidotal powers inherent to various substances of the three kingdoms of nature to cure all possible diseases that could afflict mankind. Thus bilious or stony concretions, or bezoars found in the intestines of different animals, were certain antidotes against poisons and plague. There were nests of birds which, made into cataplasms, could impart vigour and strength to an exhausted patient. Vipers and reptiles of all kinds had various renowned properties against their respective banes. We have ourselves seen large quantities of insects, *oniscus asellus, le cloporte*, which abounds in cellars and rotten wood, carefully dried and stored up in apothecary shops for use and daily demands to dissolve and disperse hard tumours. When the notion of specific virtue and efficacy extended to plants, pharmacy could not take charge of the whole stock, and she divided it with the herbalists, an auxiliary class, which dispenses specific remedies much like our Indian root doctors.

Medicines accumulated by the ignorance and credulity of all ages and nations, under the imposing authority and mysteries of pharmacy, have accrued to the amazing number of four thousand; and it must have been a vast business indeed to undertake, as a profession, the art of preparing them into various liquid or solid forms, methodically designated by appropriate names of *extracts, Ptisans, juleps, emulsions, lohochs, jellies* and *embrocations, &c.* These have been sometimes altered from the mode prescribed or adopted for the exhibition of the remedy, as *cataplasm, fomentation, fumigation, epithem, enema*, and *liniment*. More durable and palatable forms were also found necessary, *powders, pills, lozenges, boluses, trochises*, and also *confections, preserves, elixirs, robs*, and *tinctures*. But, omitting a long catalogue of *ointmentes* and *plasters*, of *cerates, pomatums, balsams, oils*, and many other officinal topics, we will offer a few remarks on the complicated compounds, called *electuaries*.

These were devised with great art to unite together

substances of opposite natures, such as gems and animal gelatine, clays and crab-shells with gold, aromatic roots and leaves with gums, or with rosin, iron, and wine. Such were the *confection of hyacinth*, the *theriaca-Andromacci*, the *theriaca celestial*, the *diascordium of Fracastorius*, the *Mithridate of Damocrates*, the *sublime orvietan*, *orvietanum prestantius*, &c. &c. It would be difficult to comprehend why so much time and labour, why so many component substances as seventy or eighty, very expensive, because difficult to procure, could be thought necessary in any one of the above preparations; but we remark that their classical and imposing names prove the *delusion* of trusting to such a motley assemblage of remedial ingredients, unknown to the historical ages referred to, and also because they were *absurdly* held up as specific antidotes of many opposite complaints, thereby answering opposite indications; that they were thought to be of incorruptible nature, although mostly composed of animal and vegetable substances. Their whole fabric rests, therefore, upon ignorance and superstitious belief, unfortunately too long accredited by the *masters* and *adepts* of pharmacy.

In offering these remarks we have not only in view the attribution to pharmacy of its real limits and utility, more particularly in this country, but we wish young readers to be guarded against the erroneous views of that science which, in our days, are imported from the European side of the Atlantic in recent and voluminous publications, calculated to reinstate the farrago and deceptions of the old pharmacy.* Many recent treatises, however, have severally contributed to confine it within the proper bounds of an useful and practical science; but even in these† there is such a superfluity of materials, that we now rejoice to have it in our power to prove that fewer remedies and compounded medicines are necessary, than has yet been admitted, to oppose and arrest the phalanx of human diseases. The Pharmacopœia of the

* Vide Traité de Pharmacie Theoritique et Pratique, &c. Par J. J. Virey, Pharmacien en Chef de l'Hospital de Paris. 2 vols. in 8vo. 1027 pages.

† The London, Dublin, Edinburgh, and Philadelphia Pharmacopœia. By J. R. Coxe, M. D. &c.

New-York Hospital, now under consideration, we trust will prove a demonstration of this assertion.

Whatever may be the merit of this work, we wish to adduce it as a fair experiment to prove the sufficiency and real utility, simplicity and economy of one of the most abridged catalogues of pharmaceutic preparations. It further shows that pharmacy, as it remains accredited among many nations, is but fictitious, being composed comparatively of innumerable articles of materia medica and compounds, which, to say the least, are inert or doubtful, superfluous or questionable in point of efficacy. That there is no substance, aggregate, or composition of ingredients to be retained as antidotes, or to be preferred as more effectual in answering medical indications to any of those that are selected in this practical and judicious record.

It will not be suspected that parsimony has thus led to the adoption of a smaller number of remedies, when it is considered that the Hospital of New-York is liberally endowed, and that yearly legislative provisions place its expenditures beyond the necessity of *occasional* collections. Nor will it be said that the number of patients admitted into that institution is limited, while the yearly reports submitted to the public prove it to amount to nearly two thousand. In short, no systematic plan, no spirit of novelty could govern the compilation of the present Pharmacopœia, which is the work of nine eminent and experienced physicians and surgeons, professors in different branches of medicine and natural philosophy, whose public prescriptions cannot be deemed in the least inconsistent with their private practice.

The *Pharmacopœia Nosocomii Neo-Eboracensis* contains, as a first part, concise and preliminary heads, or explanatory introductions, on weights, measures, terms of abbreviation, and of directions for collecting or preserving vegetable substances; with an exposition of the various degrees of diet adopted in the Hospital, and of their materia medica, amounting in the whole to one hundred and seventy-five articles. Of these we may justly observe, that although our pages could not contain all that is neglected or rejected, yet we find, amongst that number, *calor, glacies, nix et aqua,*

or caloric, ice, snow, and water; than which nothing should sooner rank in materia medica. The second part is of prescriptions and formulæ as they are used and adopted in the Hospital; two hundred and sixty in number, and all with their respective Latin and English names; each of these, however, that require it, is announced with its respective pharmaceutical direction for composition. This book is, therefore, calculated to become a safe guide, in the hands of proper persons, having materials and utensils, to supply or renew the pharmacy of one of the largest Hospitals in the United States. The third part of the work contains tables of all remedial substances or ingredients, with their proportionate doses, and they are so arranged as to enable the reader to find any article by the ancient or present technical or English name, immediately on the first column.

While we rejoice at any literary or scientific undertaking, calculated to divest pharmacy of doubtful remedies superfluous formulæ, and of all ancient and modern errors, we, nevertheless, approve of many parmaceutical compounds, which, for obvious motives, are not introduced in the present work; and yet we think it deserves to be recommended as a model to all public institutions, and as a useful guide to active and laborious practitioners.

Florula Bostoniensis. By JACOB BIGELOW, *M. D.* 8vo. pp. 268. *Boston.* Cummings & Hilliard. 1814.

A Synopsis of the Genera of American Plants, according to the latest Improvements, &c. 12mo. pp. 167. *Georgetown, D. C.* Carter. 1814.

Flora Americæ Septentrionalis. By FREDERICK PURSH. *With twenty-four Engravings.* 2 vols. 8vo. *London.* White, Cochrane, & Co. 1814.

Reduction of all the Genera of Plants contained in the Catalogus Plantarum Americæ Septentrionalis of the

late Dr. MUHLENBERG, *to the natural Families of M.* DE JUSSIEU'S *System, &c.* 8vo. pp. 16. *Philadelphia.* Conrad. 1815.

BOTANICAL taste and knowledge have lately made unusual progress in the United States. In addition to the original essays and reviews on vegetable subjects, inserted in the several volumes of our work, we have now before us four other important publications that are worthy of particular and respectful notice.

I. The learned and ingenious lecturer on materia medica and botany in Harvard university is the author of one of the works now under consideration. He found, during 1813 and 1814, that the study of plants had become more frequent and fashionable than formerly. A greater attendance of students was observed. There was more inclination to read books on that branch of natural history. There were but few in the market, and booksellers were applied to in vain to supply the demand. It was desirable to seize so favourable an opportunity. Dr. Bigelow offered them a manual of the science. With this they can make excursions through the woods and fields around Boston, and return instructed as to the aspect, character, and description of the vegetables growing there. A correct catalogue might have answered the purpose; but the author has expanded it into an elementary treatise. He believes it may serve as a tolerable specimen of the botany of the whole New-England states, and particularly of the maritime plants. None are inserted except such as were found growing spontaneously, or in their wild state. Those which thrive only under cultivation are omitted, and among them numerous domesticated trees and shrubs.

In executing his task, the author has adhered to the twenty-four classes of the sexual system. The generic characters are prefixed to each class. The specific marks have been derived from the best authorities. The whole has been translated into English, and enriched with the principal synonyma of the more modern botanists, and with the amendments which Dr. B. has

found it necessary to make. The *filices* are the only order of the cryptogamia which he has described. We hope he will treat of the *musci, hepaticæ, algæ, lichenes,* and *fungi* in his next edition.

Though more especially intended for practical use in Massachusetts, the work may answer the purpose of instruction in other places.

II. A neat and excellent compendium of botanical science was prepared by O. Rich, Esq. and published in 1814, in the District of Columbia. This is disposed, according to the latest improvements, on the Linnæan method. The new genera of Michaux and others are introduced. It is calculated to be a text-book for beginners in the science, enabling them, when a plant is presented, to refer it to the proper class, order, and genus. In a modest advertisement, the author informs the reader, that his little work is offered as a pocket companion to those who, having studied the elements of botany, wish to become acquainted with the many beautiful plants they may meet with in their walks, and to facilitate their researches in more voluminous works. If it should serve to assist the memory of the more erudite botanist, when on excursions, wherein from their size he might be deprived of the use of books of greater importance, the compiler declares his intention will be completely answered, his only desire being to be useful.

He adopts the alteration of those modern botanists who abolish the class of Polyadelphia; the genera belonging to it are placed in the thirteenth class, called Polyandria. Influenced by the spirit of what he deems necessary reform, he reduces the whole class of Polygamia; and removes the numerous families it formerly contained, to more appropriate places, as, for example, some to Triandria, some to Pentandria, some to Hexandria, some to Octandria, some to Dodecandria, some to Monœcia, and, lastly, some to Diœcia. All the Cryptogamous families are included, and distributed under the several orders of *ferns, mosses, liverworts, flags, lichens,* and *mushrooms.*

The person who seeks an acquaintance with this branch of natural history, ought to be thankful that he

has the benefit of the present work. It is a most excellent guide to the science as far as the genera. Indeed, for the United States, we know not of any introductory work that equals it in convenience, correctness, and extent. We understand that Mr. R. has accepted the executive appointment of consul for Valentia in Spain. He has left a valuable epitome of botany for his fellow citizens. We wish him health and prosperity in his European abode.

III. An article of intelligence in our vol. xvi. p. 421, announced that Mr. Pursh was occupied in preparing a great work on American botany. That publication, in two large octavos, with figures of twenty-four plants, either new, or not susceptible of cultivation, has reached us.

We have been ever mindful of books which treat of American vegetables. In our sixth volume is an analysis of Michaux's History of American Oaks, p. 64—70. Our eighth volume, p. 394—395, contains a review of his Flora of North-America. The first Catalogue of the Elgin Garden, near New-York, was noticed in vol. x. p. 209. Dr. C. W. Eddy's List of Plants growing on Long-Island, was printed in vol. xi. p. 123—131. The Kingsess Garden, near Philadelphia, was mentioned in our vol. xi. p. 302—303; and its catalogue in vol. xii. p. 394. The second edition of the Hortus Elginensis in vol. xiv. p. 373—379. The Botanical Lectures delivered in the University at Cambridge were considered in vol. xv. p. 370—376. In vol. xvi. p. 420—421, there are yet other notices of American botany. Muhlenberg's elaborate Catalogue of the native and naturalized Plants of North-America, was reviewed and recommended in vol. xvii. p. 156—158. Besides, we have given histories, descriptions, and figures of different plants in our successive volumes; such, for example, as the *Xanthorhiza Tinctoria*, by Dr. Woodhouse, in vol. v. p. 159—164; of the *Scutellaria Galericulata*, by Robert Bowne, Esq. vol. xiv. p. 232—238; of the *Frasera Carolinensis*, by Dr. Hildreth, vol. xv. p. 126—128; and various other pieces of original information; among which we mention the papers of C. S. Rafinesque, Esq. Dr. Mitchill's

Discourse to the New-York Historical Society, containing a chronological and critical account of the men and books that relate to American Botany, from Oviedo, in the beginning of the sixteenth century, to Muhlenberg, after the commencement of the nineteenth, was printed in the second volume of the collections made by that respectable body.

The present publication of Mr. Pursh is a great performance for the botanists of our country, and for all that are desirous of an acquaintance with its vegetables. He came from Dresden, in Prussia, in 1799, and after upwards of eleven years spent in botanical pursuits, he returned to Europe in 1811. He brought with him a proficiency in botany which few persons have equalled, and an ardour that no individual has surpassed. He has enjoyed great opportunities of gathering information from the wise and the learned. He has observed the herbariums where dried plants were preserved, and the hills and dales covered with living ones. All the stores of intelligence furnished by books and libraries were open, and, as far as he wished, appropriated to him. In addition to these advantages, he, with a perspicacity of genius fostered by experience, beheld much with his own eyes, and collected much with his own hands.

Thus prepared, he recrossed the ocean, and landed in Great-Britain. From the distinguished botanists in and around London, he received patronage and encouragement. They honoured him with conversations, they opened to him their museums, they displayed their specimens and drawings; and, in short, they afforded the most liberal assistance in furthering his design. Nothing could exceed the generous spirit of the gentlemen to whom he applied, nor the means they possessed of gratifying his wishes to the uttermost.

Thus Mr. Pursh availed himself of every advantage that the United States and England afforded him. His Flora, therefore, is to be considered as the most complete and correct body of information extant upon the subject of which it treats. It embraces all that his predecessors have done, and the whole which his own diligence and perspicacity have achieved. In a word, it is, for the present, and will continue to be so, until, in process of

time, a more finished work of the same kind shall appear, the book of highest authority and reference by all manner of persons learning or teaching the botany of North-America.

In executing this laborious task, the author has made several alterations in the Linnæan arrangement. The classes *Dodecandria* and *Polyadelphia* are abolished, and their genera distributed among the other classes. The classes *Monœcia*, *Diœcia*, and *Polygamia*, have been consolidated into a single class, under the new name of DICLINIA; comprehending all the species under the three orders of *Segregatæ*, *Amentaceæ*, and *Coniferæ*. He has pursued the class of *Cryptogamia* no further than the order of the *Filices;* which he divides into five sections, to wit, *Gonopterides*, *Schismatopterides*, *Filices* (proper), *Stachyopterides*, and *Hydropterides*. The remaining orders of Musci, Algæ, and Fungi, are reserved for a distinct performance, at some convenient future day, with the necessary figures and illustrations.

As to nomenclature, he has followed that of WILDENOW's *Species Plantarum*, and MICHAUX's *Flora Boreali Americana*, as nearly as possible, changing an old established name only when a better one could be found, sanctioned by sound authority. He condemns the wanton introduction of new names, and blames Michaux the younger for his frequent and unnecessary transgressions of this rule, in his otherwise valuable treatise on the forest trees of North-America.

In many instances the specific characters have been modelled anew, or altered as far as was deemed necessary. In some of the more intricate genera, the specific characters, for the sake of perspicuity, have been extended to a rather unusual length.

The pages have not been filled with a superfluity of synonyms contained in the other books; but those of a modern date have been presented to the reader as important illustrations.

As certain species were peculiarly interesting to the botanist, rare of occurrence, or difficult to cultivate, Mr. P. has made a selection of some of the more exquisite, and caused them to be figured for the embellishment of his volumes.

The tables of anomalous flowers at the end of the work, will be found eminently serviceable to younger botanists, as will likewise the double Latin and English index. Indeed, all of them will materially assist the recollection and research of adepts in the science. In a supplement are contained, among other matters, descriptions of the new species discovered in upper Louisiana by Mr. John Bradbury; and notes and remarks on the Sherardian Herbarium in the university of Oxford, which Mr. P. considers the most complete collection of American plants extant.

IV. A pamphlet was printed during the last year, at Philadelphia, for the use of the gentlemen who attended the course of elementary and philosophical botany in that city during 1815. It is ascribed to the learned and intelligent Dr. Correa de Serra.

It being the opinion of that distinguished naturalist, that the Genera Plantarum Secundum Ordines Naturales, &c. of M. De Jussieu is an indispensable work, he has attempted to remedy, in some degree, the scarcity in America of publications relative to the natural families of plants, by reducing the genera contained in the catalogue of Muhlenberg to their corresponding and proper places in the natural method of the French Professor. As many of the American genera were not found in the system of Jussieu, the worthy and experienced author of the present tract has, in conformity to Mr. J.'s principles, reduced them all to their respective families.

It is agreeable to be hereby enabled, in the most quick and easy manner, to know whether a plant belongs to the series of 1. ACOTYLEDONES, whose seeds are destitute of lobes; 2. MONOCOTYLEDONES, whose seeds have each a single lobe; or, 3. DICOTYLEDONES, whose seeds respectively are furnished with two lobes; and to ascertain as readily the natural family of which it is a member. The cultivators of botanical science owe Dr. C. a sentiment of high respect for the facility he has afforded to their pursuits. And as far as we understand their feeling on the subject of the present publication, we consider ourselves authorized to make him an expression of our thanks.

Medical & Surgical Correspondence.

A Case of Hernia, in which both the urinary Bladder and Intestine had passed through the Ring of the right external oblique Muscle: Read before the Medical Society of the City and County of New-York, at their quarterly Meeting, October 2d, 1815. By Dr. James L. Phelps, and communicated by him and Dr. Lyman Spalding to the Editors. (With a Plate.)

ON the 16th of March, 1815, I was called to visit a gentleman about eighty years of age, labouring under symptoms of strangulated hernia. On inquiry it appeared that he had been subject to hernia for about fourteen years, and that it made its appearance without any assignable cause. When the tumour was first observed, it was not larger than a walnut, and could be easily reduced. As the tumour increased in size, it gradually extended into the upper part of the scrotum, and of late years could not be wholly reduced. Frequently, when an effort was made to void urine, the tumour was rendered tense by that fluid passing into it; in which case pressure on the tumour became necessary, in order to discharge the entire contents of the bladder. The tumour, by the natural contraction of that part of the bladder which remained within the pelvis, would generally become distended with urine when the patient was so situated as not to be able to make water soon after the first calls of nature. When the tumour had become thus distended, he found it utterly impossible, by the usual efforts, to void more than a few drops of water; but if it was pressed upward by the hand, the urine would start from the penis involuntarily, and, if the pressure were not relaxed, would continue to flow, in full stream, until the whole was discharged. Whenever the tumour was considerably distended, it gave some uneasiness, but before the present time the patient had never found an utter impossibility to expel the urine.

nor had he experienced any symptoms of strangulated hernia.

In the morning the patient had walked more than half a mile, when he was alarmed with a swelling of the tumour, attended with unusual symptoms. There was more pain than common in the part, sickness at stomach, prostration of strength, and a total inability to pass any quantity of urine, even with all the force the patient could employ by pressure upon the tumour, although there were occasionally involuntary discharges of a small quantity, slightly tinged with blood.

The patient had vomited several times, and complained of considerable pain, extending from the scrotum along the belly to the stomach, and also to the back. The symptoms being urgent, I took about twelve ounces of blood, and called Dr. Spalding in consultation.

From the preceding history of the case we were led to consider it a hernia of the urinary bladder, attended with some peculiarity of circumstances. We were not, however, well assured that an incarceration of the bladder would produce all the symptoms of strangulated intestine.

On examination we found the scrotum enlarged to the size of two fists, discoloured, and tender to the touch. The tumour was of an orbicular form, and occupied the posterior part of the scrotum, pressing backward very much upon the perineum, and inclining a little to the right side. The right testicle was on the anterior surface of the tumour; the left on the anterior, superior, and left side; both loose, vaccilating, and wholly unconnected with it. The patient was corpulent, and the whole region of the pubes covered with a large fold of fat. The tumour was considerably hard, but had none of that doughy feel characteristic of hernia, neither had it all the elasticity of hydrocele.

[*Here follows the narrative of the treatment by which all grave and dangerous symptoms of the case were as properly counteracted as they had been well judged and foreseen. Catheterism, bleeding, and attempts at reduction by the taxis, were resorted to, several times without*

effect, and the patient died on the third day after strangulation had commenced.]

The dissection was begun in the manner we had proposed to perform an operation.

There appeared to have been a slight degree of stricture upon the tumour, by some circular ligamentary bands, just without the ring of the external oblique muscle. At the ring the stricture was as complete as is usual in scrotal hernia. For an inch or more below the ring, the tumour adhered firmly to the surrounding parts. The probe-pointed bistory was introduced at the upper angle of the ring, on the point of the finger, taking care to keep on the outside and below the spermatic cord, which occupied this part of the ring. It was divided about as much as is usual in the operation for hernia. On slight pressure upon the tumour a gurgling noise was heard.

The tumour was separated from its adhesions near the ring by the knife and fingers. At its strangulated part it was about an inch in diameter. The external and internal oblique muscles were both perfectly sound.

The tumour consisted of two distinct sacs or cavities; the one formed by the peritoneum, the other by the urinary bladder. The peritoneal sac, when the tumour was so placed as to correspond with its position while attached to the body, was on the anterior side. Within the peritoneal sac was found a small loop of intestine, not more than an inch in length. The whole calibre or circumference of this loop did not appear to have been strangulated. Mortification had already commenced on the strangulated portion, which was on the convex side of the intestine, while the mesenteric side was by far less affected.

The peritoneal sac was about four inches in length, and extended nearly to the lower extremity of the tumour. It was very strait at the strictured part, and contained a little bloody serum. The peritoneal surface of the sac was of a livid colour, and corrugated or plaited very much indeed, resembling the virgin vagina. From this corrugated structure, and from the sides of

the sac below the stricture being in contact, it was perfectly evident that the intestine had never been at the bottom. Indeed, the capacity of the sac would not admit of this; for when the index finger was thrust to the bottom, it was so closely embraced, that some force was necessary to withdraw it. The walls of the sac were fleshy, and, at the lower extremity, nearly half an inch thick.

The pouch formed by the bladder was on the posterior side of the tumour, laying behind the sac formed by the peritoneum. The pouch was five inches in length, extending below the peritoneal sac, quite to the bottom of the tumour. It contained about a gill of bloody urine, but of a capacity, when full, to hold more than a pint. The mucous, or inner membrane of the bladder, which lined the pouch, being unfolded and spread out, measured more than six inches in circuit, at the place where it had been divided, in separating the tumour from the body. The mucous membrane of that part of the bladder which formed the pouch, had its usual appearance, except that in sundry places there were organic lesions, some of which resembled bands of a ligamentous structure, and others appeared similar to the lacunæ of the urethra. Into one of these, which was situated on the posterior side of the pouch, a large probe entered with ease more than an inch. On laying open the cavity, it was found to be a sac, which would have contained more than an ounce of fluid. From the superior part of this cavity arose two canals of the size of a probe, which ran up, side by side, about three inches, both terminating separately in a cul-de-sac, although they communicated with each other just before their termination. At their point of termination an adhesion had taken place between two folds of the mucous membrane. Immediately above this adhesion, at the place where the tumour had been separated from the body, the two canals were again seen running downwards, and in a direction corresponding with those on the other side of the adhesion. Most probably these canals, as well as the small cavity connected with them, were formed by folds of the mucous membrane of the bladder adhering together. This conclusion is well supported by the fact, that the cavity and

canals, as well as the pouch itself, were completely lined with this membrane.

Surrounding the mucous membrane of the bladder were distinctly seen bundles of muscular fibres, running in a longitudinal direction, and interspersed with much cellular substance. An adventitious membrane of a delicate structure, which might be split into many lamellæ, enveloped the peritoneal sac, the pouch of the bladder, and all the fat surrounding them, giving form to the tumour.

This case of hernia probably occurred in the following manner:

The anterior part of the body of the urinary bladder is not covered by the peritoneum. Previous to the commencement of this affection, the bladder must have been so much distended with urine as to have raised that part of it which has no peritoneal coat up to the abdominal ring, and in doing so, must have pushed before it the peritoneum which lined the abdominal muscles, and thus have denuded the inside of the ring of the peritoneal covering.

A portion of the anterior side of the body of the bladder was first protruded, and afterwards the fundus, with its peritoneal coat, drawn down. We should then have the pouch formed by the bladder on the posterior side of the tumour, and extending lower than the peritoneal sac; which last would be on the anterior side, but not surrounding the bladder.

The broad extended surface of the peritoneum which covers the fundus of the bladder, must have been much plaited to accommodate itself to so strait a passage, and by remaining in so confined a situation. The ureters and vasa deferentia lay on the posterior side of the bladder, therefore the spermatic cord must be found on the anterior side of the tumour.

The intestine, for the first time, passed into the sac formed by the peritoneum the day the patient was attacked with symptoms of strangulation.

By the above solution of the case we shall be able to explain all the symptoms which arose in its progress; viz. the inability to make water; the urine flowing into the pouch involuntarily by the natural efforts to expel

it; and its involuntary discharge by pressure upon the tumour. The symptoms of strangulation proceeded from the incarcerated intestine.*

Explanation of the Plate.

Fig. 1. Represents an incision through the integuments down to the ring of the right external oblique muscle, exposing to view the hernial sac, dissected from the scrotum and contiguous parts.

A. The hernial tumour.
B. The right testicle.
C. The ring of the external oblique muscle.

Fig. 2. Represents a lateral section of the abdomen and pelvis passing through the ring of the right external oblique muscle, and through the centre of the hernial tumour and bladder.

A. The right testicle.
B. The peritoneal sac, containing, at its upper part, the strangulated intestine.
C. The pouch formed from the bladder.
D. The part of the bladder within the pelvis.
E. The rectum.
F. The peritoneum, with its inflections.
G. The strangulated intestine.

* "*The cystic hernia.*—I introduce this subject merely to give my reasons for not at present proceeding to describe the disease. Although I have seen it in the living body, I have never had an opportunity of dissecting any one who had this complaint; and there are several circumstances in its anatomy which are by no means clear in the descriptions of it which I have read. If an opportunity presents itself of my dissecting this disease, I will give a description of it in the form of an appendix to this work, and shall only here add, that I have seen the complaint twice in the living subject, forming inguinal hernia." *A. Cooper's chapter on Cystic Hernia.*

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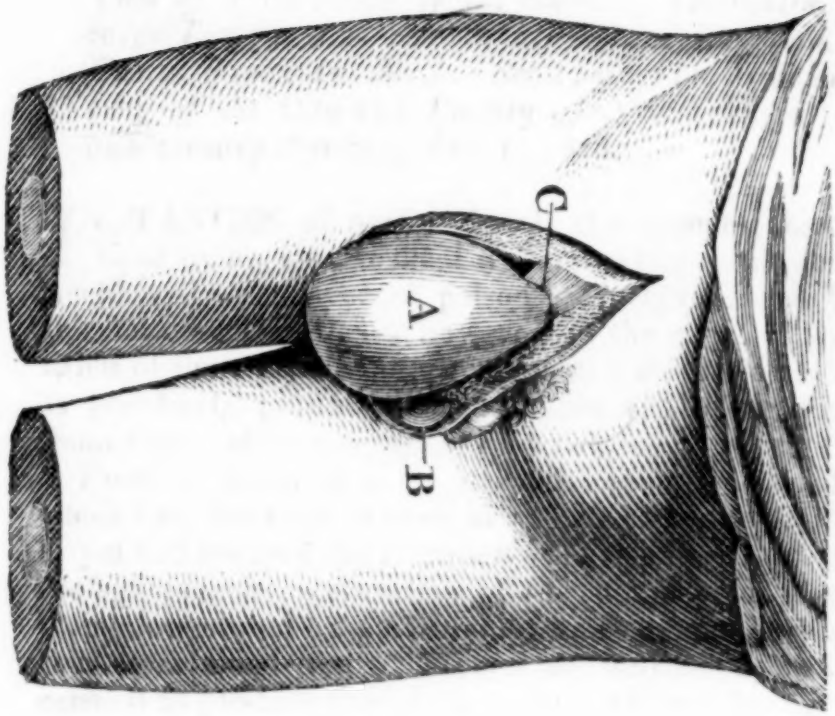

Fig. 1.

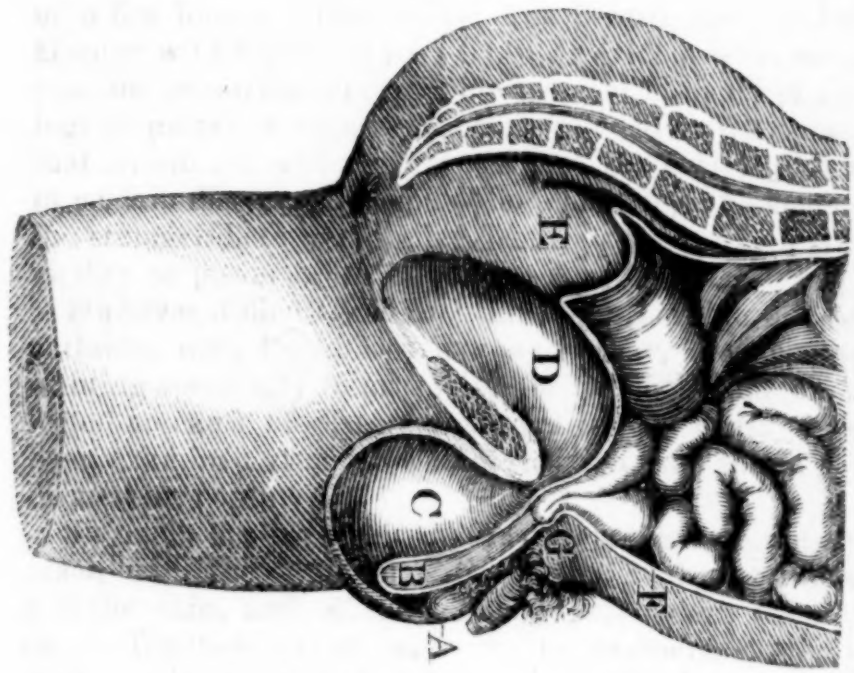

Fig. 2.

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Fig. 1.

Fig. 2.

A Case of Perforation of the Stomach, obstructed by a large Tumour, and affording Power of Digestion. By FELIX PASCALIS, *M. D. Read before the Medical Society of the City and County of New-York, at their anniversary Meeting, July* 1, 1816.

INSTANCES of perforation of the stomach were noticed by ancient medical writers as the result only of accidental wounds or of poison. Mortgagni and Vanderviel described them, however, as the effect of ulceration of that viscus, and discriminated this lesion, which is peculiarly productive of tumours and excrescences, from that which is occasioned by poison.

Further researches on morbid anatomy in modern times have been the means of other observations which as yet had escaped the attention of physiologists, namely, the spontaneous perforation of the stomach, as it were from slow or sudden corrosion of its coats and particles. It is ascertained that a powerful but imperfectly defined cause may produce this phenomenon, without the agency of external means, or of poisons, even in the short space of a few hours. That cause was investigated by John Hunter with ingenuity; its truth or evidence, however, remains unsatisfactory and inconsistent in many physiological points of argument, being founded on the opinion that an intense and morbid state of the gastric liquor, in certain diseases, is capable of corroding the coats of the stomach before and after death, when it has lost its vitality or power of reaction.

However difficult, and even incomprehensible this hypothesis, with its inference, may appear, facts are not wanting seemingly to prove it; for persons who manifested no cause of disease before a violent death, have been examined after it, whose stomach was found perforated or ruptured.

So much has been said of the sympathies of the stomach with the brain and the nerves, with the uterus and the skin, and of the influence of various diseases on its functions, that, were we to enumerate all the books written on that subject, I would think it a fair conclusion to state that it is a centre of action, power,

sympathies, and metastases. The stomach also may sometimes concentrate all diseases that possibly may exist in the system; that, all at once, it is then struck with death, mortification, sphacelus, &c. This idea would do away the perplexing doubts we must entertain about the intense causticity of the gastric liquor. Be it so or not, the only remark which, in a practical point of view, is interesting to us all, is the rule now sufficiently established in medical jurisprudence, never to admit the perforation of the stomach as a proof of murder by poison. We find it recorded in the Journal de Medicine of Paris, of 1815, that the body of a young lady who died after a few hours illness, by the effect of poison, as it was suspected by an eminent physician, was immediately examined, under the authority of public inquest. Her stomach was perforated in two places, through which a few grains of currants which she had ate in the evening had passed into the abdominal cavity. No vestige was found of any deleterious substance; nor was it probable that any person had made an attempt against her life, as seven hours only had elapsed from the time of her appearing in her ordinary state of health.

A remarkable case came before the assizes of Liverpool five or six years ago: it was that of a woman who died suddenly in a boarding house, where she was supposed to have been poisoned with a view of procuring abortion. During and after the coroner's inquest, inconsiderate and premature impressions were authorized by many eminent physicians, and directed against the keeper of the house; but what is more regretted to have taken place in an enlightened state of society, the perforated stomach of that woman, and her diseased uterus, had been handed about from Liverpool to London, and back again, for the express purpose of collecting, among medical men, authorities enough to support the charge against a murderer.

The defendant was of course presumed to be the perpetrator of it, and he surely would have been convicted, had not Dr. Carson, of the city of Liverpool, (a name to be held up with pleasure and respect) by an eloquent demonstration in court, proved that the autopsic report of the coroner, signed by so many celebrated names,

was grossly deficient, and that a spontaneous disease was far more probably the cause of the appearances on the stomach and the uterus, than any poisonous ingredient. An innocent victim of error and prejudice was thus wrested from an ignominious death by the help of medical science.

The case of perforated stomach, to which we now request some attention, is that of a male subject, nearly thirty years of age, as it will offer different circumstances and views in addition to those already noticed. It is of little importance whether it originated from a spontaneous cause or from poison. The latter is indeed more probable, because the sufferer was an industrious painter and glazier by trade, who must have been exposed to an accidental introduction of arsenical or other deleterious matter into the stomach. It is a fact that he lived five or six years with it; that however great his misery could have been, he had sufficient power of digestion; and that an immense large tumour in the cavity of the stomach was the process itself of *restoration*, with which a provident nature had indeed protracted his life.

The case was shown to me in April, 1806, by the late Dr. Joshua E. R. Birch, and afterwards to Dr. William Hamersley, professor of clinical practice in the college of physicians and surgeons of New-York. It was with little hope of any useful speculation on the diagnosis or treatment of the complaint. Besides the actual emaciation of the subject, who appeared averse to every kind of food or medicines, and who had arrived at an alarming stage of illness through a long continuance of vomitings, of pains, and of failure of all remedies, he now presented a very singular symptom of aneurism, difficult to trace, probably of the aorta; a strong beat was felt on the pit of the stomach; it was synchronous to arterial pulsations: and, although it had not that characteristic fremitus of aneurismatic tumours, it extended much on both sides, and was easily perceived even by the eye. Shortly after several consultations and conjectures on our parts, and various suggestions of remedies little depended upon, Mr. Bullock died, and, as it may be supposed, the cadaveric examination be-

came the only relief of the long anxiety which humanity and medical speculations had so often excited. It was kindly permitted by the children of the deceased, and performed on the 8th of May, 1816, in presence of Professor Hamersley, and other professional gentlemen.

We first opened the breast by raising the sternum, as we expected to find in it the principal appearances of origin of arterial tumour. Except, however, an extraordinary elevation of the diaphragm, and protrusion of the pericardium, as from pressure under it, and in the abdomen, nothing material was perceived, when we proceeded to the division of the linea alba, and reversion of the abdominal integuments. The stomach was immediately seen to protrude from under the edge of the liver, and over the great arch of the colon, behind which it should have been. It was much distended, and one third larger than natural, hard to the touch, of a red cast; its vasa brevia were turgid and enlarged, and by pressure it was found to adhere slightly to the omentum and colon: but, parting from these surfaces, a large aperture, of the size of a dollar, with indented edges, was discovered underneath. This was, however, obstructed at the depth of half an inch by some solid and whitish substance, moist with red sanies. The whole body of the stomach being therefore like a solid mass, it was thought necessary to detach it, from the cardiac aperture down to the pylorus, for further examination. It contained, and was nearly filled up in its cavity by a large tumour of a solid and whitish substance, formed by several branches or roots issuing from the internal edge of the large aperture in the fundus, and lined with a strong membrane, which, in its surface, resembled very much the villous and wrinkled coat of the stomach. These different steatomatous branches were closely and conically connected above the aperture by innumerable vascular tissues, and much interlined with slimy mucus. It may therefore appear, that at an anterior period, and before the tumour had grown to the present size, there was room enough left in the pouch of the stomach for the digestive process, without danger of its contents escaping into the abdomen through the per-

forated fundus, which was besides well secured by the omentum, and by the summit of the great arch of the colon. At present the tumour had grown up, and almost reached the cardiac orifice, at the pyramidical height of about nine or ten inches, and nearly equal at its base to the massive weight of five pounds and upwards. Its surface was irregular, indented, and interspersed with mattery small ulcers, probably produced by different ingredients which were given to the patient with various views of procuring relief; from some of them blood was oozing, and the general surface of the inner coat of the stomach presented no other alteration but that of a preternatural dark red inflamed tinge, and a space of a few inches only of the fundus, towards the pylorus was remaining for the reception of food, and it contained now but a small quantity of red serum. The whole tumour affixed to a broad and circular flap of the aperture or perforation, was severed and carried off for preservation.

We have it now in our power to account for the violent beat or pulsation so strongly felt on the epigastric region of the patient, that an aneurismatic tumour was often thought to be the cause of it. Firstly, this large steatomatous excrescence was alimented by the whole arterial blood of the vasa brevia, interspersed on its inferior extremity; secondly, the numerous formation of arterial vessels throughout the tumour were, like itself, of a morbid and inelastic nature, which could not oppose the same resistance against the diastole of the heart, they therefore admitted more blood, and produced a greater pulsation; and, lastly, the enlargement of the stomach put it in contact with the external integuments: and as there was not any interposition of the liver, the subject was very much emaciated: hence this extraordinary concomitant symptom of a great influx of arterial blood in the tumour.

A Case of Ovarian Dropsy, cured by Dr. MARTIN D. LATHROP, *of Waynesville, Ohio.*

THE patient was a married woman, and a mother of seven children, about thirty years of age, of a nervous temperament, and delicate constitution. She had, for three years preceding the attack of this disease, been afflicted with pain on the region of the ovaria, particularly during her two last pregnancies. My first visit to her was in March, 1814. I found her labouring under the common symptoms of ovarian dropsy. Her abdomen was much swollen, and sore to the touch. Her bowels were costive, and no urine had been passed for forty-eight hours. She had had several discharges of water from the uterus, followed by a mitigation of the symptoms. And as her pains (which were severe) resembled labour, it was evident that prolapsus uteri (of itself a troublesome disease) had supervened to a considerable degree, and rendered a doubtful case still more so. I commenced the treatment of this disease by replacing the uterus, and supporting it with a pessary made of sponge, moistened with a solution of sulphas aluminæ. The patient then took the tonic-diuretic mixture as prepared and recommended by Dr. J. Mace, in the Med. Rep. new series, vol. i. and in the short space of three months I had the satisfaction to see my patient restored to her former health. The pessary was continued throughout the disease, and the solution of alum was frequently thrown up the vagina. It was observable that recovery from the prolapsus kept pace with the diminution in the size of the ovaria by the discharge of water. From this it is evident that the displacement of the uterus was induced by the pressure of the enlarged ovaria on the viscera of the abdomen and pelvis, to which the relaxation of the vagina, a consequence of frequent child bearing, was no doubt a predisposing cause. I have found this chalybeate diuretic mixture not only a most powerful hydragogue, but likewise an emmenagogue of superior efficacy. I have exhibited it with complete success in three cases of amenorrhœa, where the common remedies had failed.

MEDICAL TOPOGRAPHY *of the Military Positions in the third United States Military District: together with a summary Report on the Diseases of the Army, from the Commencement of the War, in* 1812, *to its termination, in* 1815; *embracing also the Mineralogy of the surrounding Country. Communicated to* JAMES TILTON, *M. D. Physician and Surgeon-General, by* SAMUEL AKERLY, *Hospital Surgeon United States Army.*

SIR,

HAVING made a report on the medical topography of the third United States military district, as required by the regulations of the War Department from hospital surgeons, I take the favourable opportunity of the termination of hostilities to add such further information as observation has afforded, and to present, at one view, the diseases of the army during the war. The mineralogy of the surrounding country will also form a part of these additional remarks.

The city of New-York forms the centre of military operations for the third United States military district. The defence consists of an exterior and interior line of fortifications, supported by troops whose welfare and health occupy the concern of the medical department. In taking a view of the medical topography of these several positions, the natural order in which they present themselves will be the most eligible one to consider them.

EXTERIOR LINE.

I. SANDY-HOOK.

Sandy-Hook is a long beach, projecting from New-Jersey, and has a light-house on its northernmost extremity. It is but little elevated above the surface of the ocean, consisting entirely of loose sand, brought from the interior by the rivers of New-York and New-Jersey. The sand thus arriving at the ocean is repelled

by the waves of the Atlantic, and accumulated into sand-bars and beaches. Sandy-Hook extends about fifteen miles northward of its junction with New-Jersey, forming a barrier against the surf of the ocean, and covering the mouth of Shrewsbury river. A considerable portion of the beach projected beyond New-Jersey, or that part more particularly considered as the *Hook*, is covered, for an extent of two miles, with cedars and low bushes, and is somewhat marshy. Among these are found several species of *rhus*, a scrubby growth of wild-cherry (prunus virginiana), and the beach-plum (prunus maritima.)

The sand of the beach, where uncovered by vegetation, is blown about by the winds, and formed into wave-like hillocks. In the autumn and winter the surf brings to the beach considerable quantities of iron, in the form of black sand, which, mingling in layers with the sand already deposited, is in some places apparently hardening into sand-stone, which is cemented by the iron. In the recess of the tide the beach affords a hard bottom, and is the path most usually travelled.

The channel through which vessels have access to the harbour and city of New-York, lies under the point where the light-house is situated, near which is the principal work for the defence of the passage. The fortification erected here is called Fort Gates, after the revolutionary hero of that name. The smaller works are several block-houses in the most commanding positions.

The military at this post have been much afflicted with fluxes and remittent fevers, though no prevalent mortality has taken place proportionate to the number taken sick. The exciting causes to disease act more powerfully there than at any other place in the district. The beach is less than a mile in width, exposed to the highest, heats of summer, with the addition of reflected heat from the sand and water. The sand alone annoys the soldier and the sentinel, by its removal with the winds, and mixing with his food. The heavy blasts of winter rush with uncontroled fury over the barren sands, which afford no living streams, nor wells supplied with other than bad water. Intermittents have not been pre-

valent there, but the salt marshes and low bushes are the resort in summer of innumerable swarms of moschetoes, whose irritating punctures have been known to excite febrile action.

Among the medicinal plants growing on Sandy-Hook, is the prunus maritima, or beach plum, not yet introduced into the materia medica. Dr. Willey, of Block-Island, has in his own practice made use of the bark of the root in powder, as a substitute for Peruvian bark. He has given it in the convalescent stage of fevers, and other complaints, where tonics are required, and found it to answer a very valuable purpose. No trial has been made with it in intermittent fever, that disease not being known on Block-Island. Dr. Willey's communication to me on the subject is published in the second volume (new series) of the Medical Repository of New-York, p. 304. The medical qualities of the wild-cherry tree bark, and of the different species of the rhus, have been some time known, and require only to be mentioned.*

Sandy-Hook is distant about thirty miles from New-York. Its alluvial deposit, and the sand-bars of similar materials, diminishing the depth of water between that point and the city, affords a handsome illustration, in the small way, of the manner of formation of the floetz rocks, and other formations of the globe, as detailed in Werner's system of geognosy. These are mechanical depositions of certain materials collected together from a fluid in which they were suspended, as it retired from the earth, which was covered by it. This fluid was the waters of the Noachian deluge. As the depth of water diminished by its subsidence from the surface of the globe, its agitation imparted to the depositing materials the form of gently rising hills and hollows. This is an essential character in the floetz formations of the globe. The same is very evident as far as has been observed in the United States, and may be particularly noticed in the northern part of New-Jersey and the state of New-York. Thus too these alluvial depositions, though not yet risen above the surface of the ocean, are, in many

* See Caldwell's Medical Theses, vol. i. p. 113.

places along the coast of the United States, formed like floetz countries, into extensive plains, with risings and depressions, like these formations. The east and west banks are such alluvial deposits on either side of the channel in passing to the city of New-York.

II. Staten-Island.

This island is situated on the west side of the harbour of New-York, being about nine miles distant from the city, in a south-west direction. It forms the county of Richmond, in the state of New-York, and is eighteen miles long, and six or seven broad. The interior of the island is hilly, with considerable level land on the west and south-west borders of it. Rariton bay washes it on the south side, and the Hudson river on the east, while it is separated from New-Jersey on the north and west by a narrow passage, navigable for vessels of twenty-five tons.

The south-east point of the island is occupied as a military position, commanding the channel, and bearing upon an enemy advancing between the east and west banks. Fort Tompkins is a pentagonal stone work, erected on the height above all the other works, commanding the whole. The principal battery, called Fort Richmond, is a double platform, en barbette, carrying fifty-two guns. The water battery, or Fort Hudson, is a semicircular covered work of masonry, mounting twenty-seven guns, beneath the others, on the margin of the river.

This is a charming position as respects the salubrity of the air, the agreeableness of the prospect, and the healthiness of the place. Pure and wholesome water is obtained from the wells on the hill and the springs issuing from the foot of it. There are no large fens or marshes near this position to render it unhealthy. The diseases most prevalent at this post have been remittent and intermittent fevers, fluxes, and other diseases of the seasons. The mortality arising from these complaints has not been greater than in ordinary times in the surrounding country, except in the winter of 1812 and 1813 there was a prevalent mortality among the volunteers

stationed there; but it was a mortality arising from personal causes, aggravating a disease of the season. Pneumonia was prevalent, and proved fatal to hard drinkers, and to the uncontroled irregularities among a new raised corps.

The hills in the centre of this island are composed of magnesian rocks, of steatites, or soap-stone. Chromate of iron, massive and granular, is found disseminated through it, but in no great quantity. It sometimes forms small crystals, with numerous sides, which have not been determined by the naked eye, though probably of the octaedral form, like those found near Baltimore.* The soap-stone of the adjacent state of New-Jersey, and detached portions found on Long-Island, also contain these forms of chromate of iron. The higher parts of this island may be arranged with the floetz formations of New-Jersey.

The remaining portion of Staten-Island, including its level portion and some of the smaller hills, appears to be alluvial, and composed of sand of various consistence, from fine beach sand to gravel, and earth mixed with stones and rocks. In the centre of Fort Tompkins, on the south-east point of the island, is a well exceeding one hundred feet; in digging of which nothing but sand was raised, and the labour was easy and unobstructed by strata of any kind to its greatest depth. Some small specimens of native copper were found in the sand when removing the hill to establish suitable positions for the artillery, but they afforded no traces of larger quantities.

III. Long-Island.

Long-Island is the southernmost portion of the state of New-York. Its west end lies south of the city, and forms the eastern side of the harbour of New-York. The passage between it and Staten-Island is called the Narrows, it being the opening into the harbour, and at the narrowest place less than two miles over. The island extends eastward one hundred and forty miles, and

* Bruce's Mineralogical Journal, vol. i. p. 223.

has an average breadth of about fourteen. Its western end is washed by the waters of the Hudson river; its south side and eastern end are exposed to the waves of the A ntic ocean; and its north side by Long-Island sound, separating it from Connecticut. This sound opens a passage for inland navigation the whole extent of the island. It is twenty miles over in its widest part, and contracts in approaching New-York, till it reaches the whirlpools of Hurl-gate, where islands at that place diminish its breadth to less than half a mile. This place lies seven miles north-east of the city, and the passage thence is called the East river, till it meets with the Hudson, and opens into the bay of New-York.

There are several military works on Long-Island for the defence of New-York. Fort Lewis is situated on the height at the Narrows, opposite Fort Richmond; Fort Diamond, at the edge of the channel, on Hendrick's reef (of rocks), directly beneath Fort Lewis. From thence to Fort Greene, at Brooklyn heights, the distance is nine miles. The works at Hurl-gate are, a castle on a rising ground, commanding the passage, a battery on Hallet's point, and a block-house on the mill rock. A detachment of troops has been stationed during the war on the east end of Long-Island, principally to prevent incursions from the enemy's marine force on that part of our coast.

Fort Lewis or that neighbourhood has been occupied by troops, either regular or militia, during the war. This position has nothing to render it unhealthy; but, on the contrary, it is an agreeable pleasant place, and though not so much elevated as the opposite shore, possesses all the agreeableness of a fine, well-cultivated country.

Fort Greene and its connected line of defence, from the Wallabout to Guana's cove, as well as the works at Hurl-gate, were established and occupied in 1814, by regular troops and militia. The diseases at these places have been generally mild, and the same as in ordinary attack the inhabitants of the surrounding country. The principal of these have been dysentery, diarrhœa, pneumonia, intermittent and remittent fevers.

The whole of Long-Island is alluvial, except a small

portion about Hurl-gate, where strata of granite prevail in the township of Newtown. A ridge of sand hills runs the whole length of the island, inclining more to the north side of it, and nearly in a direction between south-west and north-east. The highest part of this ridge is at Hempstead Harbour. It is known by the name of Harbour-hill, and is one of the land-marks first descried in approaching Sandy-Hook. The island north of the ridge is also hilly, and intersected by bays and inlets. Shells from great depths in different parts of the island have been raised in the sinking of wells,* hereby affording the evidence of its alluvial formation. South of the hills the country is flat and unobstructed by any risings of the surface. It has a gradual slope to the sea shore, and the depth of water beyond the land increases in the same gradual manner till without the reach of soundings in the Atlantic ocean. The south side of the island is shielded from the fury of the waves by islands, and sand beaches, similar to Sandy-Hook, on some of which are found cedars and beach-plums.

On the north side, and parallel to the ridge of hills, a stratum of clay underlays the superstratum of sand, commencing at Newtown and Flushing, and in its course north-easterly appears on Little-neck, Great-neck, Cow-neck, and at Moscheto-cove, in the township of Oyster-bay, where it terminates, twenty miles from its origin. Its colour is white and red. With the white unsuccessful attempts have been made to form pipes. The red appears on the east side of Cow-neck, and is manufactured into paint. In different parts of this stratum, balls of pyrites are found, sometimes crystalized into cubes. It undergoes spontaneous decomposition beneath the surface and by exposure to the air, and such decomposition has given origin to pieces of carbonated wood frequently found in penetrating this clay. These deceptive appearances of coal have given rise to unsuccessful searches for this valuable article as fuel. The earth, at different periods, has been opened at Moscheto-cove, Cow-neck, and Flushing. The carbonated wood found at these places is penetrated with pyrites, and containing no

* Bruce's Mineralogical Journal, vol. i. p. 129.

bituminous or inflammable material, is hardly combustible.

On the hilly part of this island, granitical rocks are dispersed of various magnitudes, and of a great height. The south side contains few or no rocks, but abundance of water-worn stones, not larger than a man can lift. In a part of the hill forming the little peninsula of Red-Hook, in the township of Brooklyn, a quantity of rounded magnesian stones are loosely heaped together, to the height of twenty feet from the surface of the water, forming an aggregated bank of variegated magnesia. The chromate of iron, in a crystalline form, is found in most of these stones.

The deer is still found in a wild state on Long-Island. The Hudson river is a barrier to certain animal and vegetable productions. The *robinia pseudo acacia*, or locust tree, is extensively cultivated there for timber, but is not a native of this part of the country.

IV. M'Gowan's-Pass.

This position is the northernmost of the exterior line of fortifications. It is at Harlaem heights, seven miles from the city, and near Hurl-gate. This place of defence was well chosen, and besides the garrison at the pass, it was supported by two brigades of militia in the summer and autumn of 1814, the first time that the events of the war rendered its occupancy necessary. Disease made no ravages at this place during the continuance of an army in its vicinity.

(To be continued.)

INTELLIGENCE.

Atmospheric Constitution of New-York, from March to July, 1816.

WE have to notice unusual atmospheric occurrences, with great vicissitudes of temperature, and a suspended radiance of the sun, since the last equinoctial period. This was preceded by a moderate winter and mild rains. The arrival of migratory birds, the appearance in our waters of those fishes which are thought to be the harbingers of an early spring, became the topic of many weatherwise observers, who rejoiced, and confidently announced the happy change. Soon after, however, our expectation was disappointed, and the night of the 17th of March is supposed to have been by far the coldest during the winter. The weather continued extremely cold, windy, and stormy, until the latter part of April; when, instead of refreshing showers, which fertilize and cherish the earth, a parching aridity commenced, and became calamitous by a duration of six weeks. The wind, constantly blowing from the north, west-north-west, north-north-west, and south-west, seemed to be in direct opposition to the sun, highest in the fore-noon and about meridian, but falling calm at sunset; then again, at night it blew a gale, whistling through the shrouds of vessels. What rendered it more astonishing in its diurnal variation, was its co-existence with mist or vapour equally dense, and yet diaphanous all over the horizon. It had nothing of the nature of a humid fog. It was like that smoky vapour which overspread Europe about thirty years ago. The learned, who made experiments to ascertain its nature, could only state its remarkable dryness, by which no polished surface or mirror could be obscured. It was not a gaseous fluid, nor a terrestrial emanation, or else high and cold winds must have condensed it in some parts, and rare-

fied it in others. At night also, when the winds were abating, and when vapours from the earth are accumulating, our hazy atmosphere was cleared, and stars could be numbered. This tangible aerial stratum ascended very high in the region of the clouds which passed above it, apparently as if they had been raised and lacerated by tempestuous winds. Besides its extreme aridity, the matter which had thus darkened our orbit was not possessed of any known deleterious quality. It did, however, affect plants, blighted the most delicate and ornamental, and generally kept vegetation in the utmost languor. But whether, like the sirocco that blows from the south-east on the Italian and Spanish shores, it had some influence on the vital principle of the nerves, we cannot assert; yet we might infer, that like it, it created a gloom on the mind,* or an untoward association of ideas; that it had a tendency to aggravate grief and distress, and to promote crimes, from the coincidence of suicide and murder, of which many male and female victims were heard of in this city during the period of this atmospheric phenomenon. We have stated that the range of winds was mostly from north to south-west, and they rarely, even to this day, have shifted to the east and south-east; but, as a matter of fact we remark, that the latter, contrary to their nature, have been extremely cold and dry, except when attended with squalls or showers; and the temperature has been warmer on the opposite side of the compass.

While the human eye could thus, during long days, gaze on the great luminary of nature, as represented in many old records to have been *tinged with blood*, and, like a red globe of fire, deprived of its dazzling splendour and radiance; then numerous dark spots were discovered on its face, without the help of telescopic or obscured glasses; these, among the multitude, became the theme of popular apprehension of a calamitous sign in heaven, and others thought to have found a visible cause of the long refrigeration of our atmosphere. Be that as it may, we subjoin, for the further satisfaction

* Vide Travels in Spain, by the Rev. J. Townsend.

of our readers, an interesting philosophical sketch on this phenomenon, drawn, as it appears, by a very competent observer.*

* Sol, the sun, the most splendid of the celestial globes, diffuses light and heat through the whole planetary system. Many authors have written upon his nature and constitution. A catalogue of these heliographic books was published at Helmstadt, in Germany, during 1753, by Nicholas Frobesius; but in 1768, Mich. Chr. Hanovius attempted, in a formal dissertation, to demonstrate that the sun was not a body of fire.

Astronomers, on beholding this grand luminary, are satisfied that he is not equally radiant in every part. His surface is occasionally beset with spots or clouds, of which the famous professor Weidler, of Wirtemberg, has exhibited an able summary. The usual appearances of solar maculæ are these, to wit.

1. Occasionally on the disk of the sun are seen blackish spaces, of a round, oval, or irregular figure. They often have a dark nucleus, whose circumference is tinged with a red and blue colour. They are called maculæ, or spots.

2. Frequently, as the French astronomers remarked, during the seventeenth century, there were none to be seen for days, months, and even years in succession. Picard, Hevelius, and Mairan, distinguished themselves by the assiduity with which they pursued their investigations on this subject.

3. The number visible at a time on the sun, varies: for sometimes there is but a single one; and then again, ten, twenty, thirty, or more have been distinguished. Scheiner discovered, on a certain occasion, fifty spots in sight at a time, on the sun's disk.

4. Their apparent magnitude varies; they occupying, at different times, the hundredth, fiftieth, thirtieth, twentieth, and even a greater portion of the sun's diameter.

5. They usually make their appearance first near the easternmost margin of the sun, whence they pass in a curved line to the westernmost edge, and disappear. Near the summer and winter solstices, their line of motion is straight.

6. Near the extremities of the disk, they move more slow; towards the centre, their progress is faster.

7. Seen near the margin, they seem smaller; while beheld in the middle of the disk, they look larger.

8. Sometimes a single spot will divide into several; and then again, several will coalesce into one.

9. Yet spots have been observed to show themselves first on the middle of the sun, and there gradually to vanish or go out of sight.

10. The motion of the maculæ on the hemisphere of the sun, which is turned toward our planet, the earth, lasts about fourteen days, and continues about as long on the opposite side. The period of their revolution, according to Du Hamel, is twenty-seven days, or thereabouts; some of them have returned again and again; others, however, do not present themselves a second time, but melt away, or are dissipated while they are going round on the opposite hemisphere. De la Lande calculates the period of the sun's revolution on his own axis, to be twenty-five days and ten hours.

That until the middle of June the temperature has remained unusually cold, with repeated frost; that many wheat, rye, and corn fields have been apparently injured in this and the neighbouring states; that garden and spring vegetation has been considerably repressed and injured; it will not appear exaggerated when it is remembered, that as late as the sixth of this month, a heavy fall of snow has been witnessed in Upper Canada, and in the state of Vermont. A short prevalence of easterly and southerly winds during the latter part of June, has, for the first time, promoted a warm temperature, as high as 87° Fahrenheit; but July has opened again with north-north-west winds, and has continued to this day (July 15) from 15 to 20° below summer heat.

Let it be supposed that the polar regions have been the scene of tremendous disruption of unfastened ice; that the frozen plains at and about Greenland, Davis's

11. Spots which have been seen from remote regions of the earth, have been referred to the same point of the sun's disk.

From these facts it may fairly be inferred, that solar spots are opaque masses, impenetrable by the sun's rays. Their position between the sun and us withholds a portion of his light; and during their continuance the earth receives a diminished share of its radiance. This diminution of solar influence must have an effect upon our planet and its atmosphere, rendering them both cooler than they otherwise would have been. Our spring has been exceedingly backward and chilly; and is nearly six weeks less forward than usual. Our work has shown, by several collections of facts, from year to year, the sensible operation that the vast masses of ice working to the southward in the Atlantic ocean, from Greenland as far as the latitude of 43°, have upon the atmosphere and temperature of the north-eastern section of America. This very spring of 1816, brings further confirmation of the doctrine, that the chilliness of April, May, and June, may be owing, in a great degree, to the presence of such extensive fields and islands of ice on the Newfoundland station. We now endure the double operation of solar spots and Greenland cold.

Spots in the sun were observed in the year 1611, by Fabricius, in East Friezland; Scheiner, at Ingoldstadt, in Germany; and Galileo, in Italy. They have since been very diligently watched and described by later astronomers. Those which obscured the disk of the sun in 1806, were carefully watched by the Rev. David Wiley, of Georgetown, (D. C.) and their description recorded in the tenth volume of the New-York Medical Repository, p. 80, & seq.

The method of observing them in the best manner, has been stated by Weidler, in his *Helioscopia emendata et illustrata*, to which the curious are referred.

Straits, and Baffin's Bay, were rent asunder under the weight of antique piled masses of ice which were for the first time shaken to their foundation, and left to the impulsion of oceanic currents and tempests. These innumerable fragments or islands, mountains and fields of ice, must, from various directions, have arrived from the arctic in our northern seas, and absorbed from the atmosphere an immense quantity of caloric, &c. The following documents will illustrate our conjecture.

1. New-York, April 16, 1816. Arrived, ship Ann-Maria, in fifty days from Liverpool. On the 1st of April, on the Banks of Newfoundland, she fell in with the ship Rubicon, Hakell, eleven days from Boston, for St. Petersburgh, in distress; having, on the 30th of March, on the Banks, in lat. 43, long. 51, run foul of an island of ice, which broke the Rubicon's stem short off, stove in five of her timbers on the starboard bow, and shivered the plank to pieces, which caused the ship to make a great deal of water. Same day saw two islands of ice in fifty-six fathoms water, on the western part of the Banks.

2. Capt. Rea, of the ship Trident, on a voyage from Liverpool to New-York, fell in with immense quantities of ice, lat. 42 50, and between long. 49 and 51. He was among the ice for two days, and arrived at New-York May 1.

3. Baltimore, April 28. On the 11th of April, in lat. 45, and long. 47 50, the ship Oscar, capt. Hill, on a voyage from Lymington, ran upwards of a hundred miles along a body of ice, extending north-east and south-west.

4. Philadelphia, May 6, 1816. Arrived, the ship Dido, West, in thirty-five days from Newry. From the 17th to the 20th of April, in lat. 42 30, and long. 49 51, the Dido passed immense fields of ice, at least one hundred in number.

5. Boston, May 4. Arrived, the brig Governor Carver, Doten, thirty-two days from Havre de Grace, with French goods. To the eastward of the Grand Bank of Newfoundland, saw great quantities, and mountains of ice.

6. Philadelphia, May 6. The ship Nancy, Crosby,

arrived from Newry, with passengers. On the 16th of April she fell in with the ice, and was five days sailing through it.

7. Liverpool, April 18. Arrived, the ship Vigilant, Young, from Philadelphia, after having been completely surrounded by ice for thirty-three hours, in lat. 45 50, and long. 45 31.

8. Boston, May 7. Arrived, the ship George Porter, Foster, from Liverpool, with salt, crates, and coals. On the 22d of April, in lat. 43 25, long. 53, spoke the ship Oscar, West, ten days from Virginia, to Falmouth, and had fifty or sixty islands of ice in sight. Capt. F. had then sailed ninety miles among them; and capt. W. informed him it extended two hundred miles to the westward. Progressing on his voyage, he found the masses of ice actually to reach from the middle of the Grand Bank to one hundred and thirty miles west of it.

9. New-York, May 25. Arrived, ship Kentucky. On the 10th fell in with several large islands of ice on the Banks of Newfoundland, some of them supposed to be one hundred feet high.

10. Boston, May 6. Arrived, ship Mary, Barber, from Liverpool. On the 20th April, at two A. M. in lat. 43, in forty-five fathoms water, on the Grand Bank, fell in with an island of ice, twenty yards distant; very foggy, rainy, and blowing fresh: hove to until day-light, and found himself surrounded with ice; luffing and bearing away until six P. M. April 21, wind north-west—no ice in sight. April 22, saw a large island of ice in lat. 41 26, situated north-east by east, four leagues distant. April 23, spoke an English brig, which fell in with ice in lat. 48 45—narrowly escaped. According to these reports the ice must have extended in an east and west direction nearly fifty leagues, and probably much further to the north and south. The weather, when in these latitudes, was cold, foggy, rainy, and squally.

11. New-York, June 1. Arrived, ship John Hamilton, from St. Ubes. To the eastward of the Banks, saw a number of ice-islands.

12. Quebec, May 21. Some passengers arrived on Sunday from the Montreal ship. From them we learn that she was confined nineteen days in the ice. Thirteen

sail were seen from the mast-head in similar circumstances. This vesseld saile from Greenock, on the 4th of April.

13. Letters are received from passengers in the brig Rising Hope, capt. Morrison, a regular ship from Liverpool to Montreal. She was crushed by the ice, and, in consequence, foundered the 23d ultimo, off Cape Ray; but the passengers and crew were saved by getting on board another vessel.*

The Nitre of the Ancients, or Mineral Alkali, a very important Remedy.

I. *Notices of the Carbonate of Soda in the Writings of Hippocrates.*†

In his Tract on Superfætation, carbonate of soda (nitre) is one of a considerable list of remedies, such as fig-juice, sandarach, and flax-seed, to be applied for softening the mouth of the womb. In the same chapter he mentions this very alkali, as both emollient and purgative. In the former case he undoubtedly means the topical application; in the latter he must intend the administration by the stomach. In neither instance does he assign exactly the dose, or the manner of exhibition. Among the suppositories for white discharges, and particularly where the uterus is relaxed, he advises it to be applied with wild cucumber and cyclamen, dry, on wool. He enumerates several suppositories capable of purging away all sorts of humours, and among them a roll of linen, to be introduced with cantharides, sandarach, carbonate of soda, fat, and cyclamen.

Afterwards, in his first book of the diseases of women, he observes, that the *red* carbonate of soda, with cumin

* For similar occurrences, and its powerful operating agency on the weather, climate, and seasons of North-America, see our former documents, vol. viii. p. 343; vol. x. p. 255, 410; vol. i. new series, p. 194.

† For further information concerning the use which the ancients made of the carbonate of soda as a medicine, see a letter from Dr. Mitchill, to Dr. Woodhouse, in Medical Repository, vol. ii. p. 272; and also a letter from Dr. Mitchill, to Dr. Rush, in Medical Repository, vol. v. p. 119.

and resin, must be introduced, with a suppository, into the vagina, in certain cases, to aid conception. And he repeats, that *red* carbonate dried, with garlic and figs, equal parts, may be mixed with honey, and are good ingredients to be used with a pessary.

Now this *red* nitre is the natural colour which it acquires from the earth in Egypt, where it is formed.

II. *Cases in which Celsus recommends the Use of Carbonate of Soda.*

In his second book, chapter xxxi. Celsus mentions carbonate of soda (nitrum) as an ingredient in a cataplasm.

Treating of fevers he observes, if there should be undue sweating, the skin must be hardened by soda and common salt, mingled with oil. (Lib. iii. c. 7.)

In his observations on palsy, or relaxation of the nerves (ibid. c. 27), a pain of the nerves is mentioned. After recommending travelling, and some other things, he directs the pained part to be anointed with a watery solution of soda, without any admixture of oil: then it must be covered over and fumigated with brimstone thrown upon red-hot coals.

Among the remedies for dyspnœa, such as venesection, purging, elevating the head, and others, he recommends a medicine made of soda, or of white cresses, rubbed and mixed with honey, to be employed as a linctus.

Various remedies are mentioned as proper for a species of colic (lib. iv. c. 12); and a hard, costive, and painful belly, is directed to be rubbed three or four times a day with soda added to oil.

He places soda and its spume (efflorescence) among corrosive applications; and the soda again among those things that eat away the flesh. (Lib. v. c. 7.)

Soda is an ingredient in a drawing malagma, described in lib. v. c. 18, made up with dry rosin, ammoniac, galbanum, and wax, each equal parts; he says it is good where humours are to be drawn out, as in dropsy, pleurisy, incipient abscess, and moderate suppuration. It is an article of Ctesiphon's malagma, (ibid. c. 31) being then ordered to be of the *reddest* kind, and to be incorporated with Cretan wax, resin of turpentine, and oil.

The unclean disorder called vitiligo, ought to be treated with Irenæus's composition; made of bastard coral, soda, cumin, and dried fig-leaves, equal parts, bruised together, and softened with vinegar.

Soda and vinegar are enumerated among the remedies for the *porrigo*, or scurf-head. And for removing pimples on the face (a sort of cosmetic for women), he says that a composition may be made of galbanum and soda, beat up with vinegar to the consistence of honey.

In short, Celsus recommends the carbonate of soda among the applications to the eyes for removing dimness of sight, for rubbing on a limb to reduce an overgrown callus of the bone, and, dissolved in hot water, to act with oil and common salt in the treatment of luxations.

A Discourse upon Vaccination, or Kine-pock Inoculation. By Valentine Seaman, *M. D. with an elegant coloured Plate, showing the different Stages and Appearances of the Disease.* This interesting and practical work is dedicated to the mayor, aldermen, and commonalty of the city of New-York. Its publication has been predicated on the laudable motive of renewing the public confidence as to vaccination, which the late epidemic of the small-pox had a tendency to weaken. From the experience of the author, who took an early and active part in the introduction of the vaccine in this city, (vide Report on Vaccine Inoculation, in Med. Rep. vol. v. p. 236) and from his eminence as a practitioner, we anticipated a useful and instructive production, and our expectations have been fully realized. We therefore think it a duty incumbent on us to record this respectable essay, and to recommend it to young practitioners, heads of families, and to all interested in the preservation of life, by the extirpation of the small-pox.

M. C. S. Rafinesque, of the Royal Institution of Natural Sciences at Naples, &c. has published a circular address to all the friends of science in this and other parts of the world; in which he enumerates, firstly, the various philosophical works he has already published in

Europe; secondly, the manuscripts he has lost by his shipwreck when coming to this country, some of which he will be able to write over again; and, lastly, the prospectus of the following:

1. *Annals of Nature, or Repository of Natural Sciences; particularly Botany, Zoology, Mineralogy, and Geognosy.*

This work will appear in numbers, once every season; in spring, summer, autumn, and winter. Four numbers will complete a year, or one volume. The first number will be issued in the spring of 1817. This interesting work is intended to be completed in sixteen numbers, or four years, ending in the winter of 1820–21.

The subscription will be two dollars per annum, to be paid on receiving the first number.

2. *Somiology of North-America, including the Flora and Fauna, or the Botany and Zoology of the United States of America and the adjacent Countries.*

Progress of Medical Science in the Country.

The following document we present to our country medical readers as an encouraging and worthy example of professional industry, amidst agricultural pursuits, and very limited means of remuneration. It will prove how much good may be done by a few enlightened men, who have it in their power to diffuse useful knowledge, to administer comfort to the labouring farmer, and secure for their fellow citizens, even in the wilderness, all the advantages of science and civilization. We suppress the name of our correspondent, and of the county here alluded to; being well satisfied that throughout this state, as county medical societies are generally established, the same advantages are, more or less, every where experienced. The writer, having given us the names of all regular physicians, proceeds thus:

"You no doubt consider the number quite sufficient for the population of this county, you may presume that we cannot all subsist comfortable on the compensation for our medical services, consequently some of our number do a little labour in the cultivation of land.

We have, a few months past, formed a medical society. The gentlemen appear to wish to persevere in acquiring knowledge, to benefit their fellow citizens, although poorly paid for their services. Two members, each quarterly meeting of the society, relate two cases, their treatment, &c. subject to the discussion of the society. One disputation of practical utility, with other miscellaneous business, occupies our attention every quarterly meeting. Few operations have as yet been performed in this county, and indeed few have been necessary. Amputation, and a few others, not very important ones, have been performed here; nor have many persons from this county been sent to the city of New-York for surgical aid. There has not been, to my knowledge, one person labouring under compression of the brain from external violence."

Another Project for the Prolongation of Human Life.

We have received from Jules Rucco, M. D. &c. of Naples, a copy of his *Recherches sur la Prolongation de la vie Humaine*, &c.

The author has been liberal enough to publish to the world, the receipt, at full length, for this specific, which he distinguishes by the name of *liqueur vitale*, or *liquor of life*. The composition contains the quintessence of select vegetables. We believe this composition to be an excellent cordial, stimulant, and tonic remedy.

New-York Historical Society.

An association of gentlemen was formed a few years ago, for the purpose of collecting, preserving, and multiplying documents. Among these, a leading and active member, John Pintard, Esq. has particularly distinguished himself. They have gathered a large body of printed materials, illustrating the settlement of New-York and other parts of America; and the progress of these set-

tlements toward the present time. A volume of the collections of this learned body was published in 1810; a second volume was printed by Van Winkle and Wiley, about six months ago.

To the Historical Society, the Academy of Arts, the Literary and Philosophical Society, and to Mr. J. Scudder, proprietor of the Museum of natural curiosities, the corporation of the city of New-York have munificently granted the use of that large and central building, formerly occupied as an asylum and an hospital for the poor, who have been lately removed to Bellevue. This union in one spot, and well appropriated halls of all our scientific institutions, and collections of books and natural curiosities, is as laudable and judicious as it is calculated better to join hand in hand both the emulation and talents of scientific individuals, while it affords an honourable distinction, and a permanent seat to their respective and respectable associations.

Graduation in the College of Physicians and Surgeons, under the authority of the University of the State of New-York.

The degree of Doctor of Medicine has been conferred on the following gentlemen, at a public commencement in May last, after their respective examinations, &c.

Benjamin P. Kissam,
Augustus R. Griffin,
Edward Delafield,
John R. Rodgers,
John W. B. Murray,
James Sykes, jun.
Samuel Throckmorton,
Oliver B. Baldwin,
Joseph S. Ford,
George B. M'Knight,
John M. Righton,
John B. Stevenson,
George Upfold, jun.
James K. Platt,
Robert M. Sullivan,
Peter S. Townsend,
Gilbert S. Woodhull,
Cornelius Dickinson,
Luke Douglas,
Egbert H. Bell,
Killian V. R. Lansing,
Charles Dickinson, jun.
George B. Purdy,
Josiah B. Andrews,
James R. Verdier,
Jacob Ludlow,
James W. Warburton.